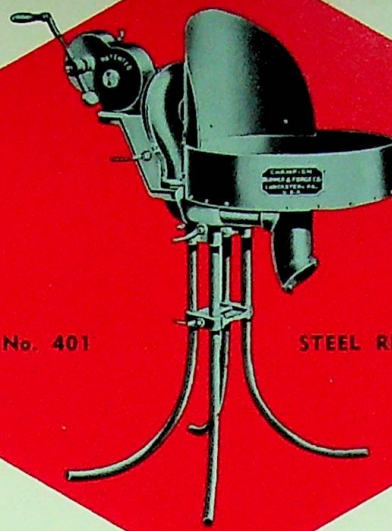


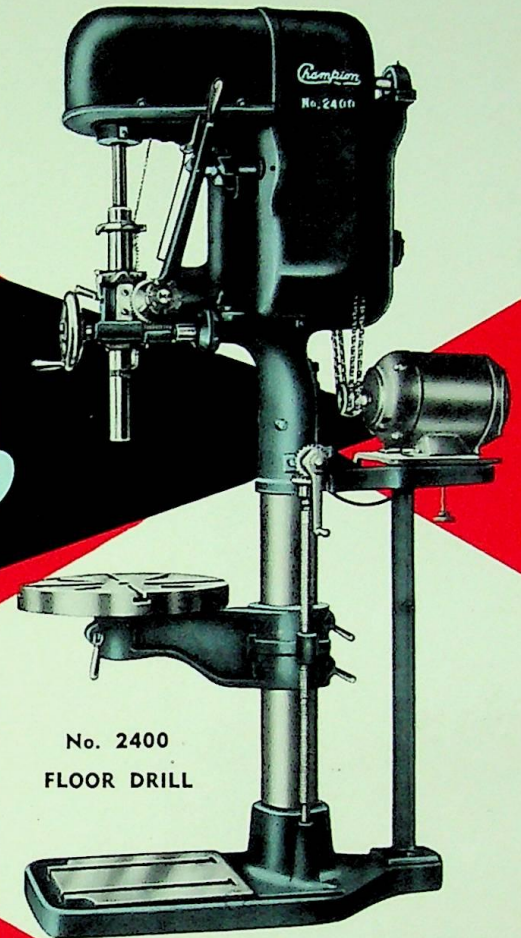
No. 401

STEEL RIVET FORGE



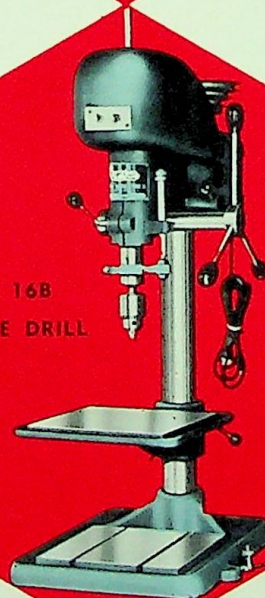
Champion

GENERAL CATALOG

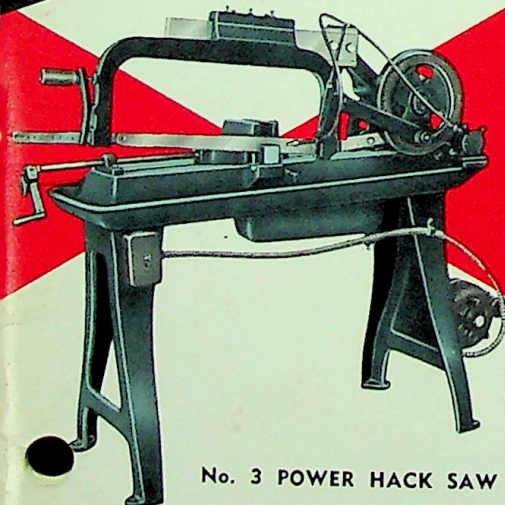


No. 2400
FLOOR DRILL

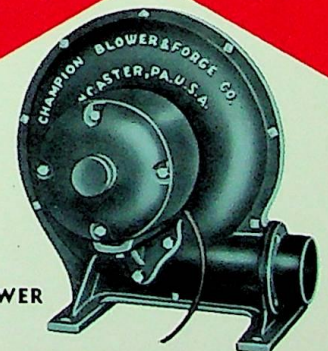
No. 16B
DELUXE DRILL



No. 3 POWER HACK SAW



NO. 50
ELECTRIC BLOWER

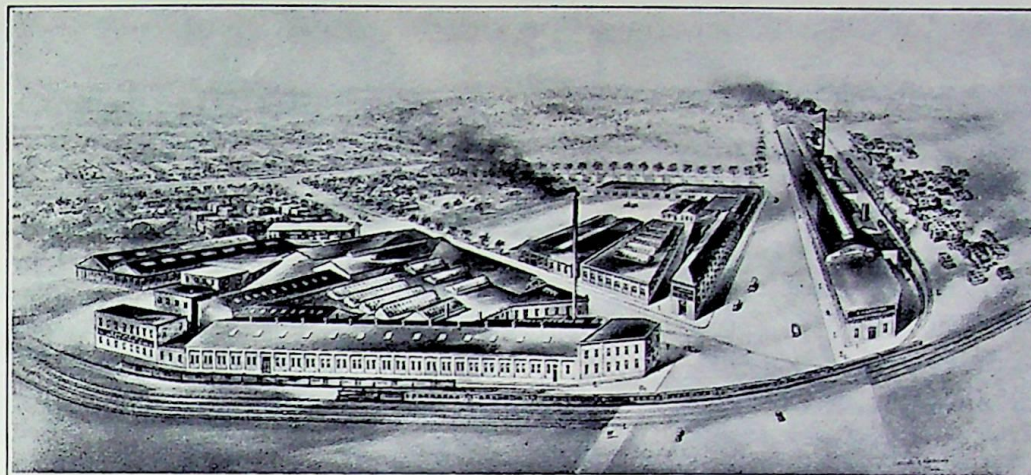


SINCE 1875

CHAMPION BLOWER & FORGE CO.

LANCASTER, PENNSYLVANIA

CATALOGUE NO. 82


 GENERAL CATALOGUE OF
"Champion"

Blowers
 Forges
 Tuyere Irons
 Forge Shop
 Drills
 Vises
 Power Hack
 Saw Machines

Saw Mandrels
 Grinders
 Buffers
 Polishers
 Exhaust Fans
 Mine Fans

Fans for Heating, Cooling, Ventilating,
 Drying and Mechanical Draft

Arbor Presses
 Screw Plates
 Taps
 Dies
 Tap Wrenches
 Charcoal Grills

Tire
 Shrinkers
 Tire Benders
 Power
 Hammers
 Punches
 Shears

MANUFACTURED BY

THE CHAMPION BLOWER & FORGE COMPANY

LANCASTER, PA., U. S. A.

 FOUNDED
 1875

 INCORPORATED
 1887

CABLE ADDRESS—"CHAMPION LANCASTER" (PENNSYLVANIA)

THE FAMOUS 400 CHAMPION BLOWER

The Original Cut Gear Hand Blower, with Over a Million in Use
This Is the Blower that Has Revolutionized the World's Hand Blacksmiths' Fires and Made Them a Most Profitable Business

The Famous 400 Champion Blowers and Forges, after many years of work with over a million in use, unquestionably stand in a class of their own.

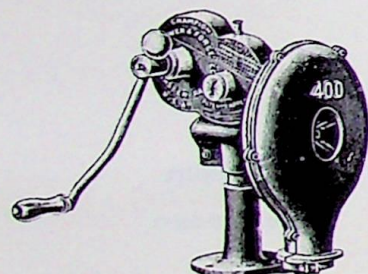
The users are their staunchest supporters and it is our desire that those who are not familiar with their value ask what the owners say, and particularly those who have used them many years, as it is the only blower as good after many years' use as when new.

The 400 "Whirlwind" Blast Anti-Clinker Heavy Nest Tuyere Iron and complete piping is furnished with the 400 Blower without extra charge. This Tuyere, in combination with the high speed of the "Famous 400" Blower, produces a circular, rotary, "whirlwind," white heat blast which heats iron at least one-third quicker and with an equal saving in coal, as no heat is wasted by being blown up the chimney.

The 400 Blower and "Whirlwind" Blast Tuyere represent in every respect the greatest value in a Blast Producer. Its Gearing, in connection with the Adjustable Ball Bearings, are constructed from the highest grade of Special Phosphor Bronze and Tool Steel, turned and finished with special Automatic Machinery, thus making the Blower run in the most accurate and smooth manner that can be constructed.

The 400 Blower can be mounted on a short pedestal for bench use.

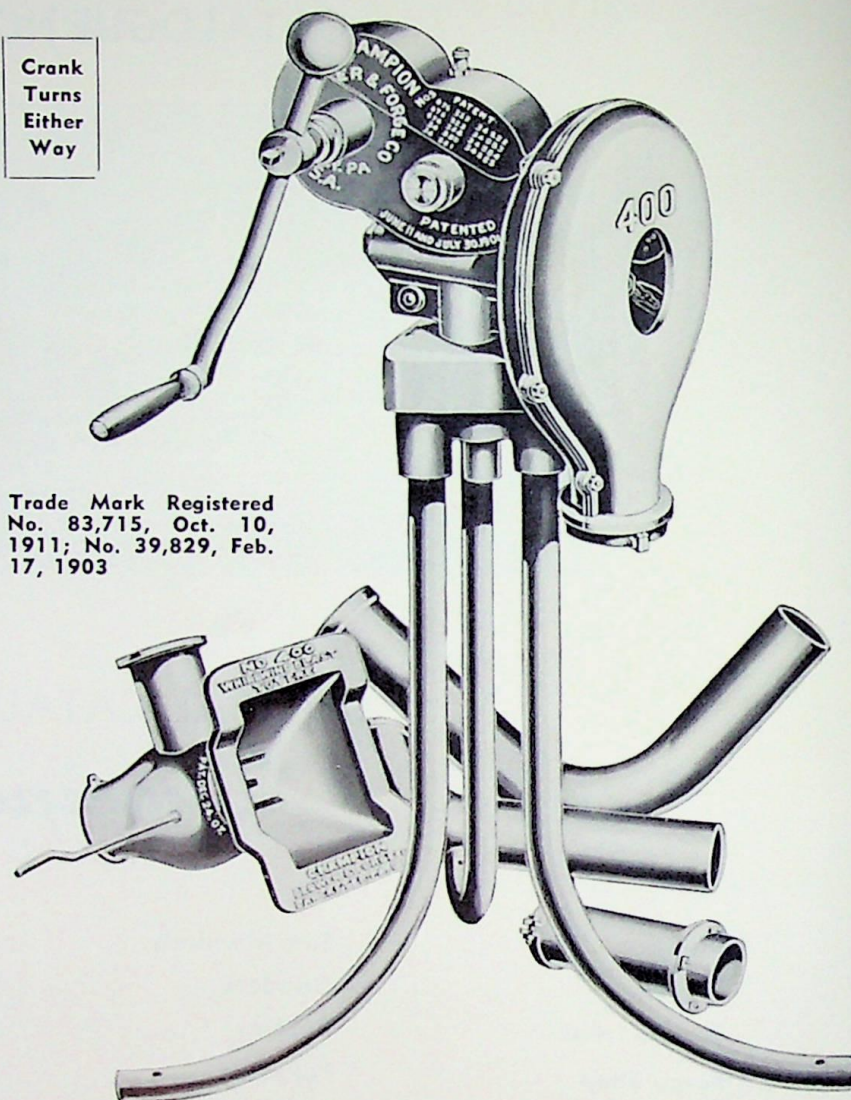
No.	Fan	Weight	Code
400 Stand	12"	170 lbs.	Facanea
400 Bench	12"	175 lbs.	Fag



No. 400 Bench

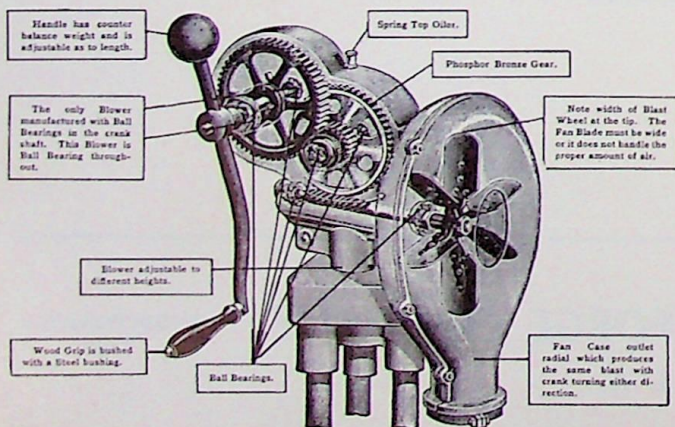
Champion Steel Blacksmith Blower is made for either right or left-hand fires. Right-hand Blowers always furnished unless otherwise specified.

Crank Turns Either Way



Trade Mark Registered
 No. 83,715, Oct. 10, 1911; No. 39,829, Feb. 17, 1903

THE 400 CHAMPION "PATENTED" HIGH-SPEED SPIRAL GEARING SHOWN IN DETAIL



The 400 Champion High-Speed Spiral Gearing in transparent cut shows the machinery in detail as every part is assembled after construction is completed.

This transparent cut, shows the inner workings of the "Famous 400" Gearing, so that the inexperienced can understand and appreciate its high grade construction.

The Fan Case is pear-shaped with outlet radial which produces the same blast with the crank turning either direction.

Each Turn of the Crank produces 46 complete Revolutions of the Blast Wheel. All Blower Speeds should be counted before purchasing, as high speed of the Fan Wing can only make a High Pressure White Heat Blast.

The blades on the blast wheel are not tapered or narrow, but are the same width at the tip of the blade as at the hub, therefore must throw a larger volume of air than a tapered blade. This wide blade gives the operator full benefit of the blast from every revolution of the crank and with the high-speed spiral gearing produces a white heat pressure blast.

All this means that the Champion 400 Blower with 12" fan case and with wide blade blast wheel, produces more volume at a higher pressure than any other 16" hand blower with narrow or tapered blade.

The 400 Spiral Shaft with Fan Wing attached is the only piece of the entire gearing that runs at high speed.

Every piece in the High-Speed Spiral Gearing is built large, powerful and substantial. Fully equal to ten times the high speed required to run a Blower.

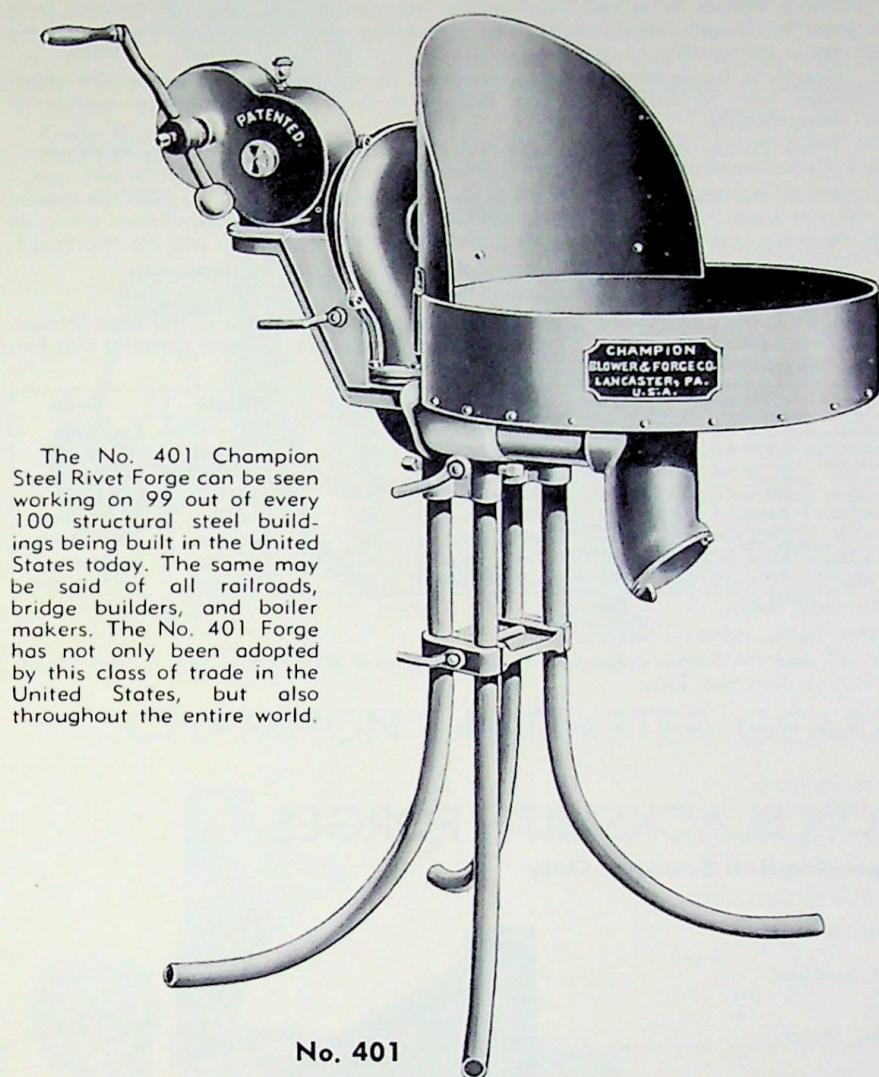
The 6-inch Special Phosphor Bronze Spiral Gear and the Tool Steel Spiral Shaft are the same size in diameter and teeth used on Spirals running at 20,000 revolutions per minute, carrying heavy loads.

The 400 Champion Concave Spiral Gear, riding the Spiral Shaft lengthwise, meshes eight (8) full teeth continuously, which forever makes lost motion or noise impossible.

The 400 Champion Ball Bearings are all adjustable with cups and cones lathe-turned from the solid tool steel bar and hardened like glass, then ground and polished to the finish of a mirror, thus making the most perfect and durable High-Speed Adjustable Bearing that can be manufactured.

CHAMPION STEEL RIVET FORGES

The Original Ball Bearing Rivet Forge
Made with Adjustable Ball Bearings Only



The No. 401 Champion Steel Rivet Forge can be seen working on 99 out of every 100 structural steel buildings being built in the United States today. The same may be said of all railroads, bridge builders, and boiler makers. The No. 401 Forge has not only been adopted by this class of trade in the United States, but also throughout the entire world.

No. 401

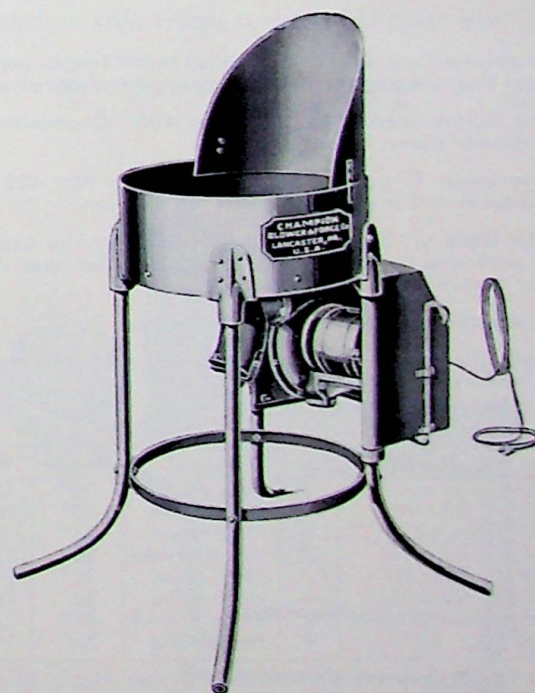
Champion Steel Rivet Forges have been on the market for many years and are used by the great majority of Railroads, Bridge Builders, Boiler and Structural Iron Workers of the world; also very desirable for garages. Nothing has ever been seen to even approach them for a strong positive blast. We can guarantee them to increase the work over and above any other make of Rivet Forge 25%. Their Gearing is the "Famous 400" Champion High Speed Spiral Gearing. They run noiseless, and can be taken apart for transportation, and again set up in a few minutes. They will produce blasts to weld 3½ to 4-inch iron in ten minutes. Crank turns either way to make the blast. Each turn of the crank produces 46 complete revolutions of the Fan Wing.

No.	Hearth	Fan	Height	Weight	Code
401	18"	9"	30"	135 lbs.	Facanhoso
401¾	24"	12"	30"	160 lbs.	Facturada

With Half Hood—Full or Closed Hood, extra

No. 459 Champion Electric Steel Rivet Forge is built for Rivet and Shipbuilding Trade. The Motor is protected from the weather, enabling this Forge to remain in the open without the motor or starting rheostat sustaining any damage. The Blower is equipped with a Six-Speed Variable Speed Regulator, manipulated by handle attachment, as shown.

459 18" 30" 120 lbs. Frost



No. 459

CHAMPION STEEL BLACKSMITHS' FORGES

Made with Adjustable Ball Bearings Only

Champion Steel Blacksmiths' Forges represent the "Famous 400" Champion Steel Blower shown on page 2, converted into a complete and practical Blacksmiths' Forge.

These Forges have been universally adopted as the acme of success in a Blacksmiths' Forge. Their construction in Bracing and Bridging of angle steel for stiffness is perfection.

Hearth is formed from a single sheet of No. 10 gauge steel plate with edges reinforced with 3/4-inch angle iron, making it seamless — therefore, rust proof and indestructible.

These Forges are furnished regularly with No. 400 Champion "Whirlwind" Blast Anti-clinker Heavy Nest Tuyere Iron without extra cost.

It has the benefit received from the condensation of the heat to the center of the fire from the circular rotary Whirlwind Blast with no waste of heat going up the chimney, and will soon save enough in the cost of coal to pay for the Forge.

These Forges meet every demand from light up to the heaviest work.

Crank Turns either way to make a Blast.

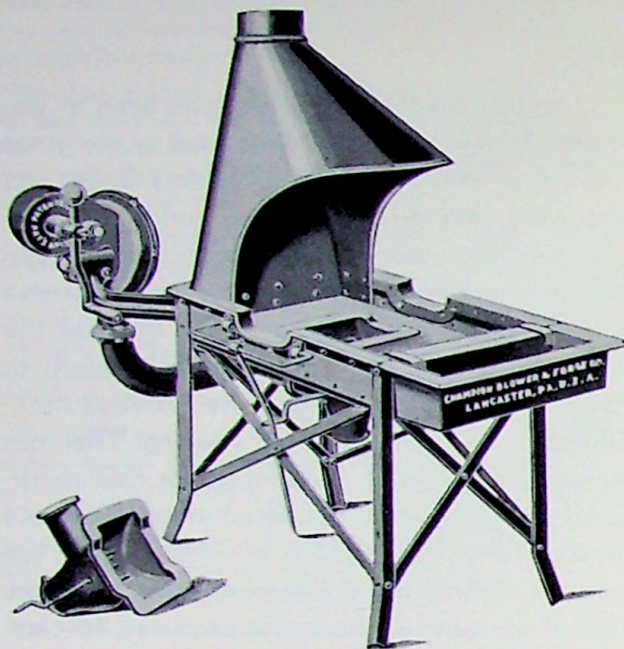
Each Turn of the Crank produces 46 complete Revolutions of the Blast Wheel. All Blower Speeds should be counted before purchasing, as high speed of the Fan Wing can only make a High Pressure White Heat Blast.

No.	Hearth	Fan	Hood	Height	Weight	Code
408	30 x 36 x 6"	12"	Half Hood	30"	300 lbs.	Fachsieb
409	30 x 40 x 6"	12"	Half Hood	30"	315 lbs.	Fachtobel
33	30 x 36 x 6"	—	Half Hood	30"	220 lbs.	Falltrank
34	30 x 40 x 6"	—	Half Hood	30"	235 lbs.	Falltuch
404	24 x 24 x 6"	9"	Wind Shield	30"	160 lbs.	Facheabais
405	24 x 24 x 6"	9"	Half Hood	30"	175 lbs.	Fachendon
406	30 x 30 x 6"	12"	Wind Shield	30"	270 lbs.	Fachons
407	30 x 30 x 6"	12"	Half Hood	30"	280 lbs.	Fachplatte

Full Hood, extra.

Water Tank, extra.

No. 33 and 34 Forges are same as No. 408 and 409 Forges less Blower Head, Blower Arm and Pipe.



No. 408

CHAMPION CAST IRON BLACKSMITH FORGES

Made with Adjustable Ball Bearings Only

Champion Cast Iron Hearth Blacksmith Forges are large and supplied with Coal Box, keeping the coal in any degree of dampness.

The Blower used is the "Famous 400" Champion High-Speed Spiral-Geared Blower shown on page 2.

The larger Forges are supplied with the No. 400 Champion "Whirlwind" Blast Anti-Clinker Heavy Nest Tuyere Iron.

The Blast of these Forges is sufficient for the heaviest as well as the lightest work and for use in Blacksmith shops, Garages, Machine shops, etc., and any special work.

Crank turns either way to make a Blast.

Each Turn of the Crank produces 46 complete Revolutions of the Blast Wheel, making a High Pressure White Heat Blast.

No.	Hearth	Fan		Height	Weight	Code
433	32 x 45"	12"	Half Hood	30"	400 lbs.	Fabagella
11	32 x 45"	—	Half Hood	30"	300 lbs.	Fallthor
430	38 x 42" x 7"	12"	Half Hood	26"	535 lbs.	Fabalibus
434	23 x 35"	12"	Wind Shield	30"	225 lbs.	Faltamos
435	23 x 35"	12"	Half Hood	30"	245 lbs.	Fabaries
11 1/4	23 x 35"	—	Half Hood	30"	160 lbs.	Falcolotto
437	22"	9"	Wind Shield	33"	170 lbs.	Fabbriile
438	22"	9"	Half Hood	33"	195 lbs.	Fabelhaft

No. 11 Forge same as No. 433 less Blower Head, Blower Arm, and Pipe.

No. 11 1/4 Forge same as No. 435 less Blower Head, Blower Arm, and Pipe.

Full Hood and Water Tank Extra.



No. 433

CHAMPION LANCASTER GEARED BLOWERS

The Champion Lancaster Geared Blowers show improvement, which makes them the best low-priced blower on the market.

The improvements consist of an increase in the size of the gear case, allowing larger gears and larger bearings, whereby the life of the blower is doubled, and the fan case is constructed heavier and stronger.

The Champion Lancaster Geared Blowers meet the demand for a lower priced blower than the Famous 400 Champion High Speed Spiral-Geared Blower, shown on page 2. This Blower is supplied with the Champion Patent Adjustable Nozzle Tuyere Iron and Pipe complete. Extra large gears are used, all accurately cut, running in a bath of oil and all lubricated same as on our higher priced Blowers. The high speed spindle is equipped with ball bearing — the only Ball Bearing Blower at its price on the market. It is smooth running, with the crank turning either direction to make the blast.

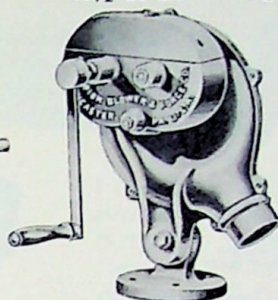
Blower can be furnished on short pedestal for bench use.



Trade Mark
Registered
No. 146,439
Sept. 6, 1921

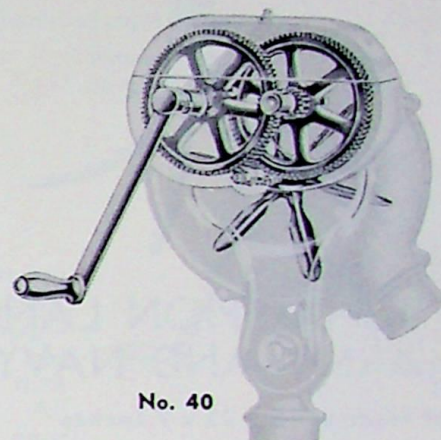
No. 40L

No.	Fan	Weight	Code
40L Legs	12"	100 lbs.	Fabust
40½ Bench	12"	75 lbs.	Fabustem



No. 40½

The No. 40 Champion Lancaster Gearing is large and accurately cut. All the higher speed gears are helical cut, insuring smooth easy running. The shafts are bushed, permitting replacement if wear develops in any bearing, without discarding the entire Blower. The high-speed shaft is equipped with ball bearing, insuring easy running.



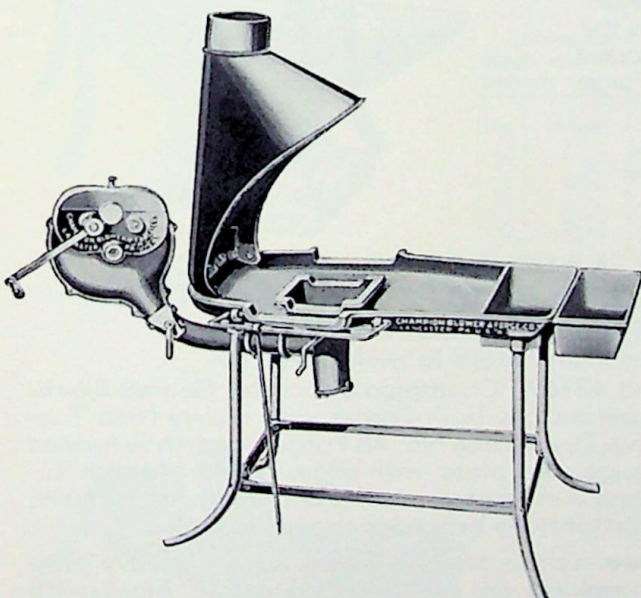
No. 40

CHAMPION LANCASTER GEARED BLACKSMITH FORGES

Champion Lancaster Geared Blacksmith Forges are well built, direct-drive Blacksmith Forges with Cast Iron Hearth which has been built to meet the demand for cheaper Forges.

The Blower and Gearing used on these Forges are precisely the same as the No. 40 Blower shown above.

The Tuyere Iron used on this Forge is a Heavy Nest Ball Tuyere Iron.



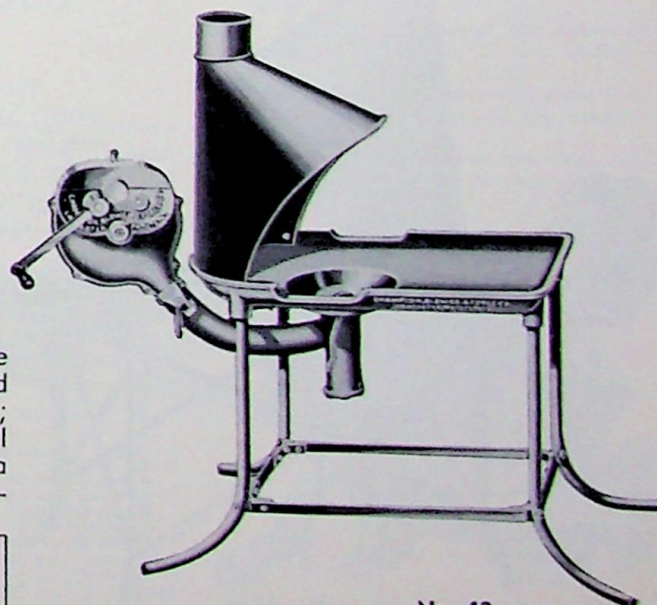
No. 41

Champion Lancaster Geared Agricultural Forges are the same in its direct gearing for making blast as the No. 40 Lancaster Geared Blower, above. This makes a well-built, low-priced, direct-drive forge; a good blast producer and is recommended for farmers' use. It is well finished in every respect with a large size hearth and fan, and is a suitable Agricultural Forge where a direct-drive forge of these dimensions is required.

No.	Hearth	Fan	Half Hood	Height	Weight	Code
43	23 x 35"	12"	Half Hood	30"	215 lbs.	Fabrefacto
42	23 x 35"	12"	Wind Shield	30"	200 lbs.	Fabriker
45	22"	10"	Wind Shield	30"	135 lbs.	Fabaraz
46	22"	10"	Half Hood	30"	145 lbs.	Fabison

No.	Hearth	Fan	Height	Weight	Code
41	32 x 45"	12"	30"	385 lbs.	Fabulo

With water tank, extra.



No. 43

CHAMPION LANCASTER GEARED RIVET FORGES

Size of Hearth, 18 Inches

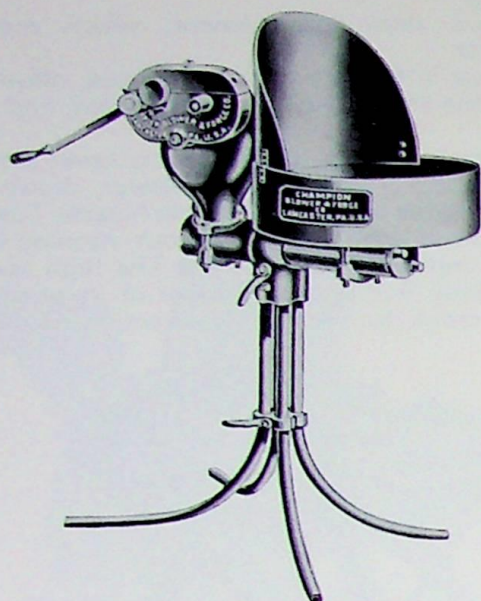
Fan, 10 Inches in Diameter

No. 48 Champion Lancaster Geared Rivet Forge is a moderate priced forge with Ball Bearings on the high speed shaft. This Steel Forge is supplied with the Lancaster Geared Blower used and shown on Forge No. 45, shown on page 5, making it a very convenient, light and serviceable Rivet Forge at a moderate price.

For further particulars as to gearing and construction of this Blower, read description of No. 40 Blower on page 5.

No.	Hearth	Fan	Height	Weight	Code
48	18"	10"	30"	110 lbs.	Fabo
48B	24"	10"	30"	125 lbs.	Fabotest

With half hood, extra.



No. 48

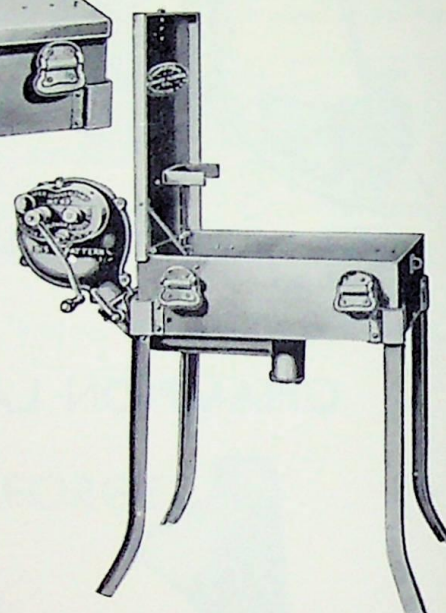
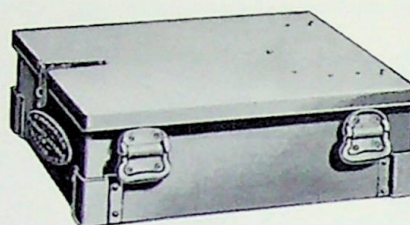
CHAMPION LANCASTER GEARED ARMY AND NAVY FOLDING FORGE

Size of Hearth, 18 x 22 x 7 Inches

Fan, 10 Inches in Diameter

No. 49 Champion Lancaster Geared Army and Navy Folding Forge is of the latest design, with the legs, tuyere pipe and blower head detachable, yet when assembled — rigidly attached in their proper position. When the loose parts are detached and packed in the case, they are firmly held in place, withstanding any amount of rough handling without breakage. The Gearing is the same type as the No. 40 Lancaster Geared Blower, shown on page 5, equipped with helical high-speed gearing, making it the best low-priced Folding Forge on the market.

No.	Hearth	Fan	Height	Weight	Code
49	18 x 22 x 7"	10"	28"	110 lbs.	Franker



No. 49

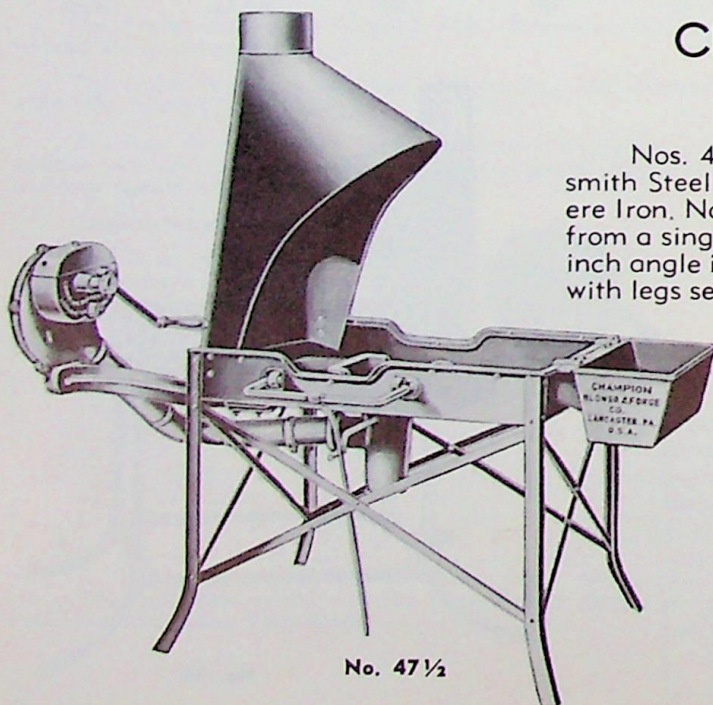
CHAMPION LANCASTER GEARED BLACKSMITH STEEL FORGES

Nos. 47½, 47¾, 44¾ and 48¾A, Champion Lancaster Geared Blacksmith Steel Forges are large, substantially built Forges with Heavy Nest Tuyere Iron. No. 48½ and 48¾ have Tuyere like No. 48 Forge. Hearth is formed from a single sheet of No. 10 gauge steel plate, with edges reinforced with ¾-inch angle iron, making it seamless — therefore, rust proof and indestructible; with legs securely riveted and substantially braced to the hearth.

The Blower is the No. 40 Blower with a Heavy Nest Tuyere Iron, making an excellent low-priced Blacksmith Forge.

No.	Hearth	Fan		Height	Weight	Code
48½	24 x 24 x 6"	12"	Wind Shield	30"	170 lbs.	Fatoca
44½	30 x 30 x 6"	12"	Wind Shield	30"	295 lbs.	Fasern
47½	30 x 36 x 6"	12"	Half Hood	30"	300 lbs.	Fakir
47¾	30 x 40 x 6"	12"	Half Hood	30"	315 lbs.	Falhize
44¾	30 x 30 x 6"	12"	Half Hood	30"	300 lbs.	Faseole
48¾	24 x 24 x 6"	12"	Half Hood	30"	185 lbs.	Fautor

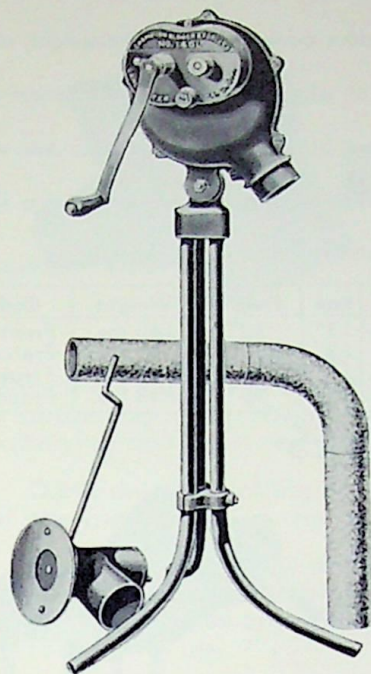
With water tank, extra.



No. 47½

CHAMPION EUREKA GEARED BLOWER No. 140

48 Revolutions of Blast Wheel to One Turn of Crank



No. 140

The Champion Eureka Geared Blower is built to meet the demands of the small blacksmith and farmer, who desires a low-priced blower producing a blast sufficient for all needs.

This blower is built with high-speed helical gearing, giving 48 revolutions of the blast wheel to one turn of the crank, and the gearing is enclosed in a dust-proof, oil-tight, rigid cast iron gear case. It is smooth running, with crank turning either direction to make the blast.

It is furnished with a Ball Tuyere Iron and pipe complete.

No.
140

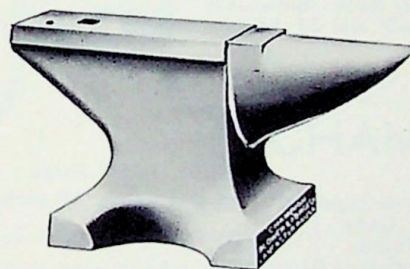
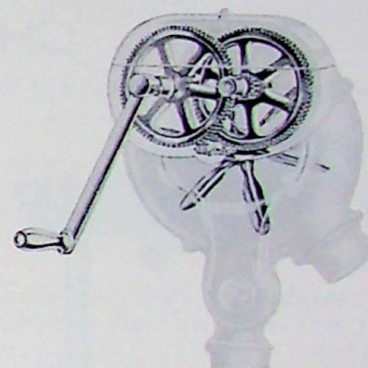
Fan
10"

Weight
60 lbs.

Code
Gabuntaler

NO. 140 CHAMPION EUREKA GEARING SHOWN IN DETAIL

The No. 140 Champion Eureka Gearing helical on the high speed gear and pinion, making it noiseless and easy running throughout with greater speed to the fan shaft per turn of the crank. The High Speed shaft runs on the ball thrust at the end of the shaft. All gears are set in a cast-iron, dust-proof gear case, insuring rigidity not found in any other style.



CAST IRON ANVIL

Champion Cast Anvils are made of the very highest grade, tough cast iron, with face chilled and ground to an extremely smooth finish.

No.	Height	Overall	Machined Surface	Hardie Hole	Round Hole	Weight
10	4"	7 3/4"	5 x 2 1/4"	3/8 x 3/8"	none	10 lbs.
20	5 1/4"	10"	6 x 2 1/2"	1/2 x 1/2"	none	20 lbs.
30	6 1/4"	11"	7 1/4 x 2 5/8"	3/4 x 3/4"	none	30 lbs.
50	7 7/8"	15"	8 3/4 x 2 7/8"	5/8 x 5/8"	3/4"	50 lbs.
75	8 1/2"	18 5/8"	11 1/8 x 3"	5/8 x 5/8"	3/4"	75 lbs.
100	8 1/2"	20"	12 3/4 x 3 1/8"	5/8 x 5/8"	1/2"	100 lbs.
150	11 5/8"	25 1/2"	15 1/4 x 4"	1 x 1"	5/8"	150 lbs.

NO. 60 HAND- DRIVEN FANS

for

Forges, Furnaces, Gas Producer Plants, and Ventilating Galleries, Underground Passages through manholes, cellars, and ship holds, etc.

All Gears machine cut, high speed gears are helical. Gear ratio is 48 to 1. Can be used as an Exhauster as well as a Blower.

No. 60AA. Diameter fan case, 6"; outlet, 1 1/2"; weight 10 lbs. Code — Sorat.

No. 60A. Diameter fan case, 8"; outlet, 2"; weight 15 lbs. Code — Sorbat.

No. 60B. Diameter fan case, 10"; outlet, 2 3/4"; weight, 22 lbs. Code — Sorbus.

No. 60C. Diameter fan case, 12"; outlet, 3"; weight, 30 lbs. Code — Sorcier.

CHAMPION EUREKA GEARED FORGES

With Cast Iron Hearth

48 Revolutions of Blast Wheel to One Turn of Crank

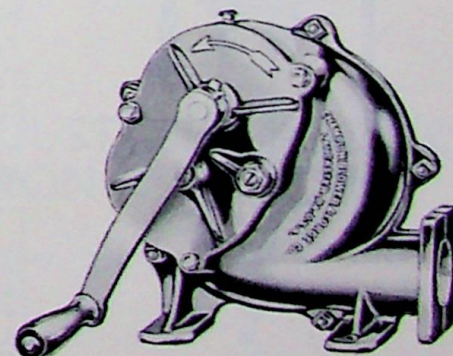


No. 147

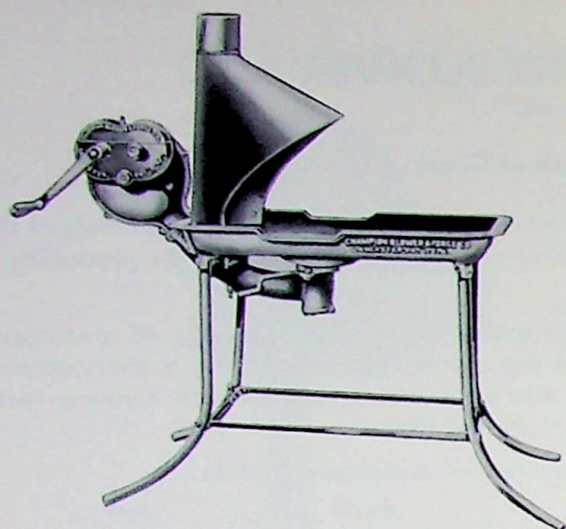
Champion Eureka Geared Forges are equipped with a Cut-Geared, Crank-Driven Blower, helical gearing being used to give smooth running and noiseless operation. The gear ratio, 48 revolutions of the blast wheel to one turn of the crank, makes a strong, steady, high-pressure blast with smooth easy turning — crank turning either direction. The gear case is cast iron, rigid, oil-tight and dust-proof.

The large size hearth makes it very desirable for Machinists, Garages, Farmers, etc., or any place where a good commodious forge is desired.

No.	Hearth	Fan	Height	Weight	Code
147	22"	8" Wind Shield	30"	80 lbs.	Gaten
148	22"	8" Half Hood	30"	82 lbs.	Gatat
145	18"	8" Wind Shield	30"	70 lbs.	Game
146	18"	8" Half Hood	30"	72 lbs.	Gaman
142	23 x 30"	10" Wind Shield	30"	140 lbs.	Gaber
143	23 x 30"	10" Half Hood	30"	145 lbs.	Gabest
242	20 x 26"	10" Wind Shield	30"	115 lbs.	Gameor
243	20 x 26"	10" Half Hood	30"	120 lbs.	Gamanate
104	18 x 20"	8" Half Hood	30"	90 lbs.	Gambit



No. 60 Blower



No. 143-S

CHAMPION EUREKA GEARED FORGES

With Pressed Steel Hearth

48 Revolutions of Blast Wheel to One Turn of Crank

No. 143-S Forge with Half Hood for indoor work is a good light-weight, medium-sized steel forge.

The Gears are cut and lay in a bath of oil, in an oil-tight, dust-proof gear case.

Crank turns either direction to produce blast, and these Forges are silent running and durable.

These Forges are supplied with Heavy Nest Ball Tuyere Iron, so a large fire can be produced to take bar work.

The above size Forge can be supplied with two different blower heads.

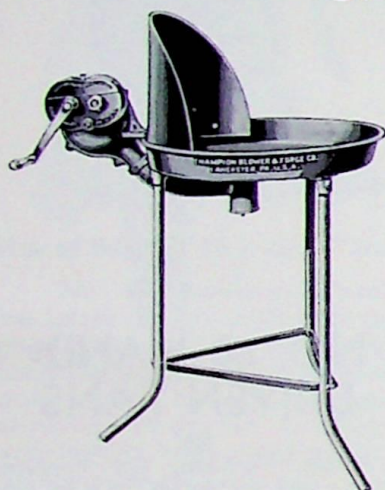
No.	Head	Hearth		Fan	Height	Weight	Code
143S	140	24 x 35 x 3"	Half Hood	12"	30"	145 lbs.	Frent
142S	140	24 x 35 x 3"	Shield	12"	30"	140 lbs.	Frenas
43S	40	24 x 35 x 3"	Half Hood	12"	30"	155 lbs.	Freakish
42S	40	24 x 35 x 3"	Shield	12"	30"	150 lbs.	Fraus

CHAMPION EUREKA GEARED FORGES

With Pressed Steel Hearth

48 Revolutions of Blast Wheel to One Turn of Crank

Champion Eureka Geared Forges are well-made, roomy, low-priced Forges for garage, machine shop, ranch or farm trade for general use. Are equipped with a cut-gear, crank-driven Blower — helical gears being used to give smooth running and noiseless operation. All gears run in a dust-proof, oil-tight gear case, which is cast iron — lining the gears up true, as there is no give like a steel gear case. Has double bearing supports to each end of the shaft and the high-speed shaft is equipped with ball end thrust bearing, eliminating friction. Hearths are pressed steel — made of heavy gauge. Forge legs are bolted to heavy hearths and braced at bottom, making the best all around low-priced Forges on the market.



No. 147-S Forge
Size of Hearth, 24 Inches

No. 135-S Forge has short legs, proving a convenient Forge for prospectors.

No.	Hearth	Fan		Height	Weight	Code
147S	24"	8"	Wind Shield	30"	52 lbs.	Gatenly
148S	24"	8"	Half Hood	30"	55 lbs.	Gatlatly
145S	18"	8"	Wind Shield	30"	47 lbs.	Gamely
146S	18"	8"	Half Hood	30"	50 lbs.	Gamonly
135S	15 x 19"	7"	Wind Shield	16½"	40 lbs.	Fratister
136S	15 x 19"	7"	Half Hood	16½"	45 lbs.	Fratacher



No. 145-S Forge
Size of Hearth, 18 Inches

CHAMPION ELECTRIC STEEL FORGES

for

Homecraft Service and General Repair Work

Sturdy Motor, without radio interference.

Blast regulated by damper on intake.

Toggle Switch for starting and stopping, on fan case.

Ten feet of Cord, and attachment plug, furnished.

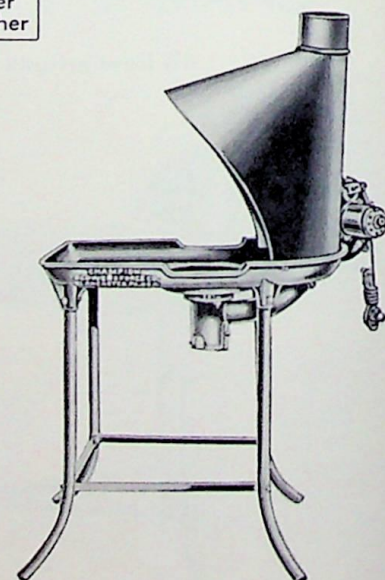
Pipe Legs, fully braced, used to guarantee rigid foundation.

Motor for 110 volts, 60 cycles, single phase, only.



No. 4145S

No.	Hearth	Size		Fan	Ht.	Wt.	Code
4142S	Steel	24 x 35"	Shield	10"	30"	145 lbs.	Sorgen
4143S	Steel	24 x 35"	Half Hood	10"	30"	150 lbs.	Sorgho
4147S	Steel	24"	Shield	8"	30"	52 lbs.	Sotaina
4148S	Steel	24"	Half Hood	8"	30"	62 lbs.	Sotanar
4145S	Steel	18"	Shield	8"	30"	48 lbs.	Sotaque
4146S	Steel	18"	Half Hood	8"	30"	50 lbs.	Soterro



No. 4143S

NO. 400 CHAMPION "WHIRLWIND" BLAST ANTI-CLINKER HEAVY NEST TUYERE IRON

For General Blacksmiths

A Tuyere Iron that makes a "Whirlwind" Blast

Registered in U. S. Patent Office, No. 49,691, Feb. 13, 1906

With Over One Million "Whirlwind" Blast Anti-Clinker Heavy Nest Tuyere Irons sold in forty years, with every user ready to testify that it heats Iron one-third quicker, besides a great reduction in Coal Bills when figuring up profits at the end of the year's work, Explains Why: —

The "Whirlwind" Blast Anti-Clinker Heavy Nest Tuyere Iron is:—A Tuyere Iron true to its name; A Tuyere Iron that produces a circular, rotary blast; A Tuyere Iron that will not blow the heat

or hot air up and out of the chimney: A Tuyere Iron from which less blast is wasted 6 inches above the Tuyere than 4 feet above any other Tuyere Iron; A Tuyere Iron that concentrates the blast and heat in the Tuyere Nest, thus makes a hotter fire and heats one-third quicker.

Don't delay installing the "Whirlwind" Blast in your fires as it saves at least one-half the heating elements of your coal pile from going up the chimney in waste.

The "Whirlwind" is no secret. We invite comparison. Hold your hand over the top of the "Whirlwind" Blast Tuyere when the blower is in blast and do the same with any other Tuyere Iron and you will immediately discover that less blast is lost 6 inches above the "Whirlwind" Blast Tuyere than 4 feet above any other Tuyere. It will pay to take the time to look this up.

The "Whirlwind" Blast Anti-Clinker Heavy Nest Tuyere Iron is supplied with a revolving pick to remove the clinkers out of the side slots, therefore, the slots can always be kept open without disturbing the fire from the top, assuring you at all times a full capacity of blast and guaranteeing a clean powerful fire.

No. 400 Champion "Whirlwind" Blast Anti-Clinker Heavy Nest Tuyere Iron is 5 inches deep, $8\frac{3}{4}$ inches wide and $10\frac{1}{2}$ inches long, over all $12\frac{3}{8} \times 14\frac{3}{4}$ inches; Weight, 55 lbs. Code — Fabulonis.

CHAMPION HEAVY NEST TUYERE IRONS

No. 4 Champion Heavy Nest Tuyere Iron is intended for large fires of all kinds. It is also very desirable for Horseshoers. It requires no claying up. Its walls are heavy enough to withstand the hottest fires. Size of nest $3\frac{1}{4}$ inches deep at lowest curve point. Sides are $5\frac{3}{4}$ inches high. Length of nest 12 inches, with a width of 10 inches over the top.

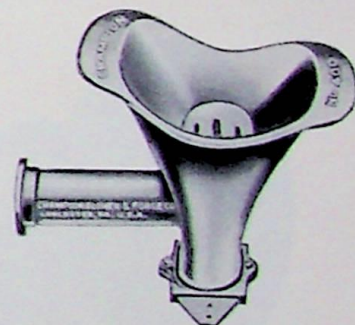
No.
4

Over All
Dimensions
 $14\frac{3}{4} \times 13\frac{1}{2}$ "

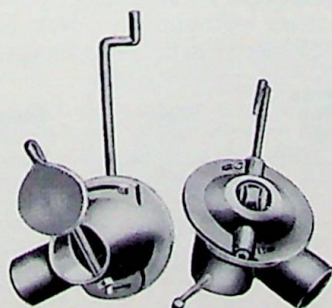
Inside
Depth
 $5\frac{1}{4}$ "

Weight
70 lbs.

Code
Fragent



No. 4



No. 40

CHAMPION PATENT ADJUSTABLE NOZZLE TUYERE IRON

No. 40 Patent Adj. Nozzle Tuyere Iron; Weight 15 lbs. — Code — Facilitate.

CHAMPION VARIABLE SPEED ELECTRIC PRESSURE BLOWERS

The Original Variable Speed Electric Blower
With totally enclosed regulator to comply with all National and Local Underwriters' Requirements

Champion Variable Speed Electric Blowers are built for blowing forge fires, furnaces, organs, and any other work requiring efficient blast.

These Blowers have the fan-case designed the same as our Steel Pressure Blowers, with snail-shape fan-case are built for high-pressure blast and durability.

The motor has wire of the best insulation, is built with hammered steel shaft, sealed ball bearing, commutator with twenty-four bars of hard drawn copper, and large flat brushes which are staggered so that one brush does not track after the other on the commutator, insuring thereby double wearing life to the commutator.

Over 400,000 Champion Electric Blowers already sold have given us valuable experience, which we are glad to extend to our customers.

- 1st. The great failure in motor building is in overrating capacity, not allowing anything for endurance.
- 2nd The CHAMPION uses all modern methods of electrical design, and furnishes a motor fully 40% above requirements in power capacity, therefore giving GIANT POWER.
- 3rd. All Champion MOTORS are ball bearing and fully enclosed with sufficient units of power guaranteed to run the Blower at highest speed of over 2,000 revolutions per minute.
- 4th. All Champion Motors are built from the very highest grade of materials, best workmanship, and machinery of the latest up-to-date designs employed in manufacturing the motor.

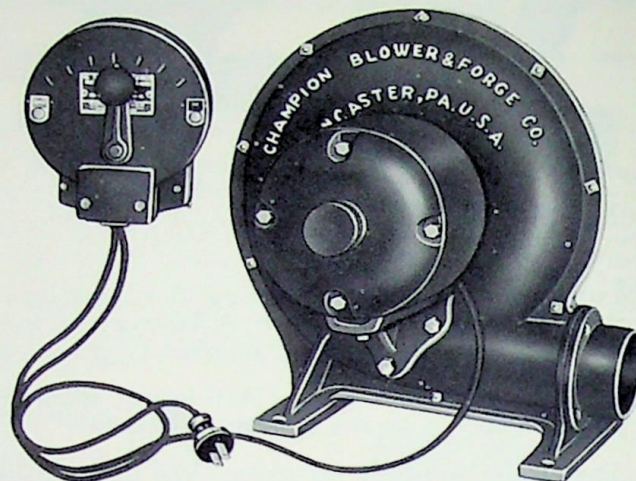
No. 50. For Regular Fire 1100 to 2350 R.P.M.

Variable Speed Universal either 110V or 220V Motor.

Height	Outlet	Inlet	Weight	Code	R.P.M.	C.F.M.	S.P.
15"	3"	3"	55 lbs.	Faces	2175	163	0
					2475	120	1
					2600	89	2
					3000	30	4
					3450	0	5

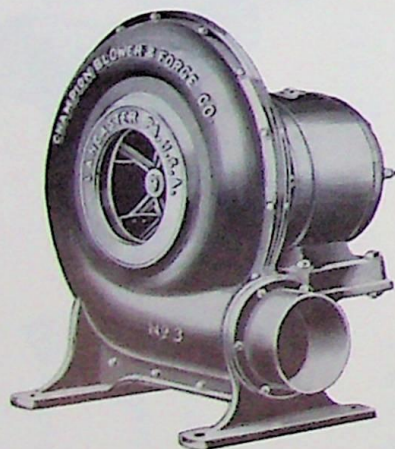
No. 51. For Extra Heavy Fire 1100 to 2875 R.P.M.

Height	Outlet	Inlet	Weight	Code	R.P.M.	C.F.M.	S.P.
15"	3"	3"	70 lbs.	Faceor	2600	190	0
					2750	156	1
					2900	130	2
					3500	87	4
					3725	61	5
					4000	0	6



The Blowers with the BIG MOTOR have

Universal Motor for Both Alternating and Direct Current. Detached Totally Enclosed Regulator with Six Speeds, 10-foot Attachment Cord and Plug to attach to any Light Socket.



CHAMPION CONSTANT SPEED ELECTRIC PRESSURE BLOWERS

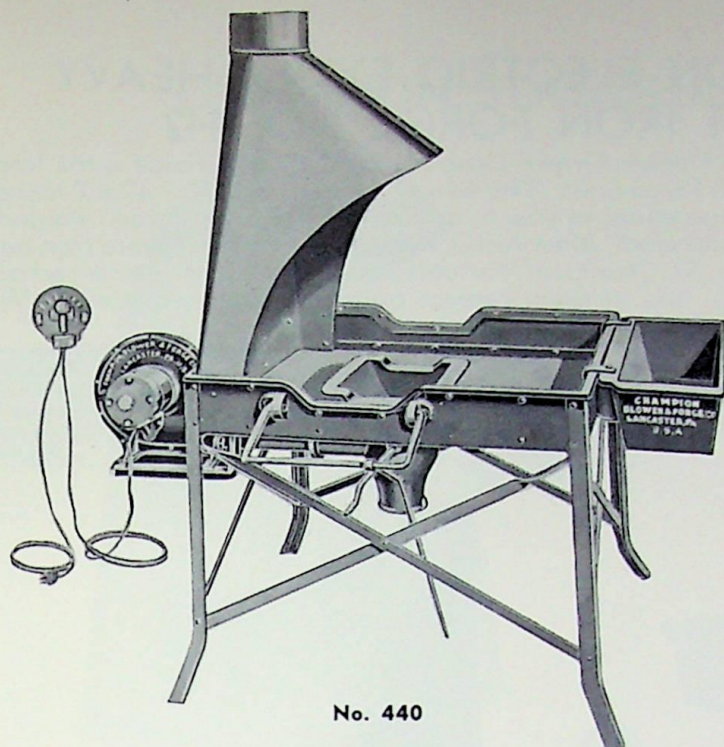
- No. 21 For One Fire 3 Square Feet of Grate Surface or 60 CFM.
- No. 20 For Two Fires 5 Square Feet of Grate Surface or 100 CFM.
- No. 121 For 10 Square Feet of Grate Surface or 250 CFM.
- No. 221 For 15 Square Feet of Grate Surface or 400 CFM.
- No. 321 For 20 Square Feet of Grate Surface or 600 CFM.
- No. 2 For 4 Fires or 200 CFM.
- No. 3 For 6 Fires or 350 CFM.

Champion Constant Speed Electric Blowers are recommended for Forge Fires, Dry Rooms, Refrigeration, Heating Furnaces, Oil Fields, Candy Machinery and Ventilating Machine Shops where required. 60 cycles, 110V Single Phase or 220V Three Phase furnished regularly. Other characteristics special.

No.	HP	Height	Outlet	Inlet	RPM	CFM	Grate Surface	Forge Fire	Weight	Code
20	1/4	15"	3 1/4"	3"	3500	100	—	2	65 lb.	Facar
21	1/8	15"	3 1/2"	3"	1750	150	5 sq. ft.	1	65 lb.	Facarer
121	1/4	15"	4 1/4"	5 1/2"	1750	250	10 sq. ft.	—	80 lb.	Faccau
221	1/3	18"	5"	6"	1750	400	15 sq. ft.	—	95 lb.	Faccion
321	1/2	21 1/2"	6"	6 3/4"	1750	600	20 sq. ft.	—	100 lb.	Faccaear
2	1/4	15"	3 5/8"	4 1/2"	3500	200	—	4	70 lb.	Factat
3	1 1/2	20"	5"	5 3/4"	3500	350	—	6	185 lb.	Fact

Above can be furnished as an Exhaust Fan if specially ordered.

If No. 50 or No. 51 blowers are to be used for continuous duty use constant speed blowers No. 21 for 1750 R.P.M. or No. 20 for 3450 R.P.M.



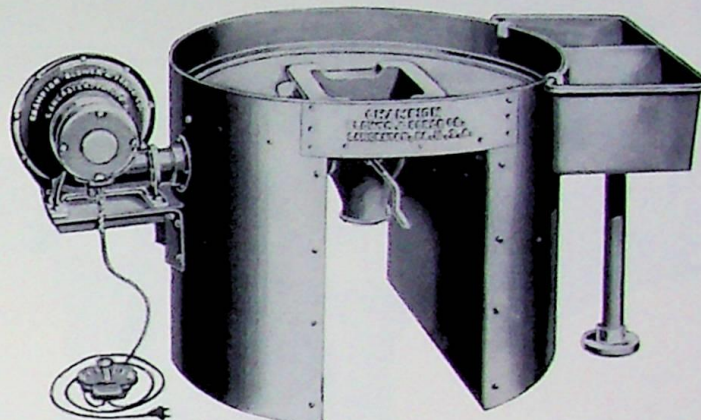
No. 440

CHAMPION ELECTRIC STEEL BLACKSMITH FORGE NO. 440

The No. 440 Champion Electric Driven Steel Forge represents a large steel plate forge, with perpendicular sides 6 inches high, with the Champion No. 50 One-Fire Variable Speed Electric Blower as shown on page 10, making it a very complete electrical outfit for those desiring a spacious steel-hearth forge; materially reducing the cost of a built-up brick hearth, to which an electric blower would have to be attached.

No.	Hearth	Height	Weight	Code
440	30 x 36"	30"	285 lbs.	Facture
449	30 x 40"	30"	300 lbs.	Facturater
453	24 x 24"	30"	270 lbs.	Facturatest
455	30 x 30"	30"	275 lbs.	Facturabus

With full hood, extra. With water tank extra.



No. 446

No.	Hearth	Height	Weight	Code
446	36"	30"	300 lbs.	Gamo
447	48"	30"	400 lbs.	Gad

With water tank, extra.

CHAMPION ELECTRIC ROUND HEARTH STEEL FORGES

The Champion Electric Round Hearth Steel Forges are built of heavy steel plate with structural iron, attached to which is the No. 50 One-Fire Variable Speed Electric Blacksmith Blower, shown on page 10, and recommended for Railway Shops or any place where extra heavy work is desired. These Forges are all equipped with the "Whirlwind" Blast Anti-Clinker Heavy Nest Tuyere Iron.

CHAMPION MODERN PORTABLE FORGES

NEAT — COMPACT — STRONG — USEFUL



No. 1146S with Hand Blower



No. 1143S with Hand Blower



No. 1146SE with Electric Blower

Our popular-priced line, especially servicable for Home Workshop, Schools, Industrial as well as Farm Trade. The modern streamlined design and general compactness, with the fuel storage space beneath the hearth. The upper door in the base receives the fuel, which feeds automatically to the lower storage reservoir; then fuel is removed as required from the lower door. This fuel storage space keeps the room in which the forge is used, clean.

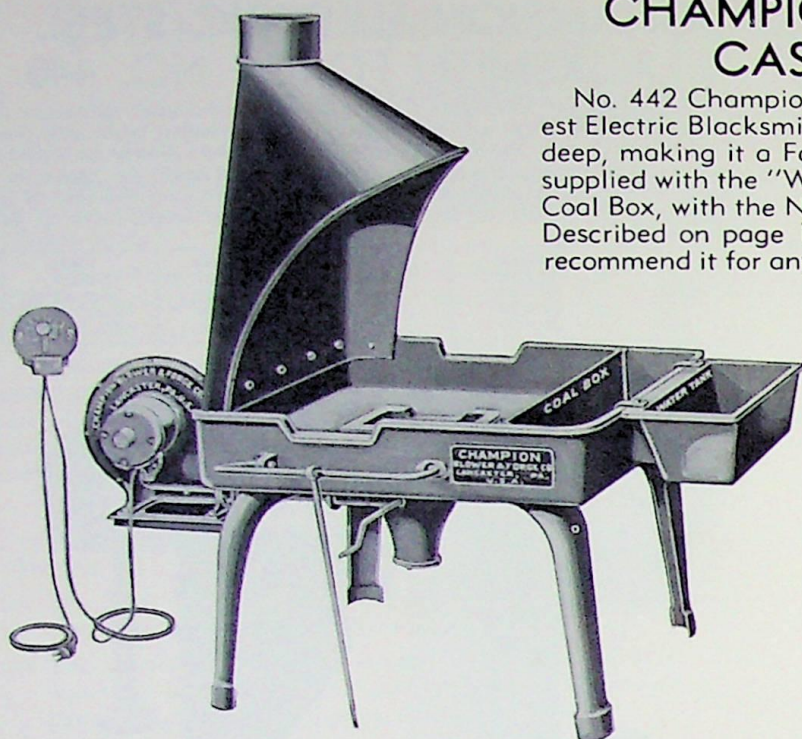
Champion Eureka Cut-Gear Hand Blowers will furnish blast to heat iron 3" thick in ten minutes. Cut gears run in oil, in dust-proof, oil-tight gear cases — crank turns either direction.

Champion Electric Blowers have sturdy motor. Blast regulated by damper on intake side. Toggle switch for starting and stopping, on fan case — attachment cord and plug. Motor for 110 volts, 60 cycles, single phase, only.

No.	Hearth Size	Depth	Blower	Half-Hood or Shield	Fan	Height	Weight Pounds	Code
1145S Steel	18" Diam.	3"	Hand	Shield	8"	30"	70	Celatoris
1146S Steel	18" Diam.	3"	Hand	Half-Hood	8"	30"	80	Celature
1147S Steel	24" Diam.	3"	Hand	Shield	8"	30"	75	Celaurite
1148S Steel	24" Diam.	3"	Hand	Half-Hood	8"	30"	100	Celaverunt
1143S Steel	24" x 35"	3"	Hand	Half-Hood	10"	30"	195	Celavimus
1145SE Steel	18" Diam.	3"	Electric	Shield	8"	30"	70	Celavistt
1146SE Steel	18" Diam.	3"	Electric	Half-Hood	8"	30"	65	Celdillas
1147SE Steel	24" Diam.	3"	Electric	Shield	8"	30"	75	Celebrable
1148SE Steel	24" Diam.	3"	Electric	Half-Hood	8"	30"	80	Celebrado
1143SE Steel	24" x 35"	3"	Electric	Half-Hood	10"	30"	195	Celebramas

CHAMPION ELECTRIC EXTRA HEAVY CAST IRON FORGE NO. 442

No. 442 Champion Electric-Driven Extra Heavy Cast Iron Forge is the largest Electric Blacksmith Forge built. The size of the hearth is 38 x 42 x 7 inches deep, making it a Forge equal in size to any stationary brick forge. Forge is supplied with the "Whirlwind" Blast Anti-Clinker Heavy Nest Tuyere Iron and Coal Box, with the No. 51 Champion Variable Speed Electric Blower attached. Described on page 10, and in every respect built for extra heavy work. We recommend it for any place where extra heavy work is expected.



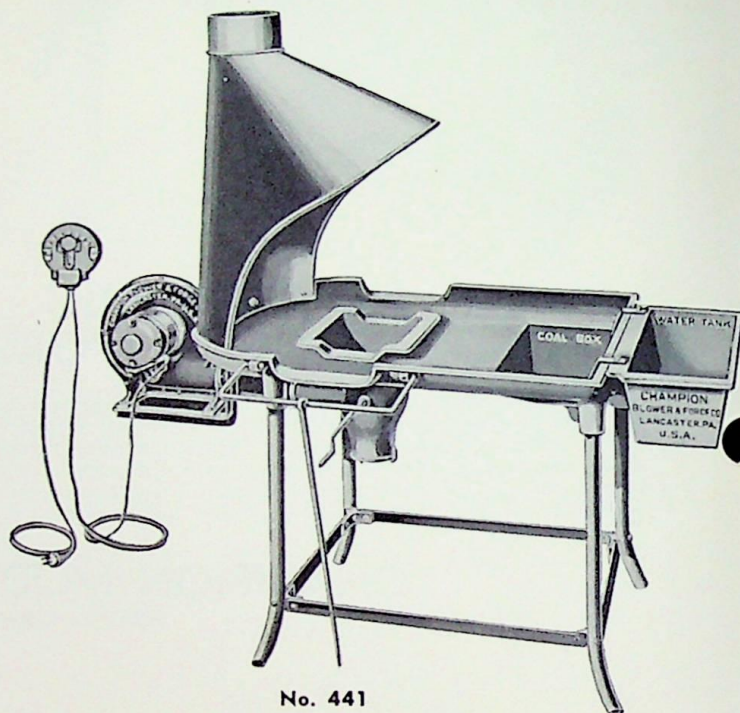
No. 442

CHAMPION ELECTRIC CAST IRON BLACKSMITH FORGE NO. 441

No. 441 Champion Electric Driven Cast Iron Forge represents a large hearth Forge with "Whirlwind" Blast Anti-Clinker Heavy Nest Tuyere Iron and Champion Patented Coal Box, with the No. 50 Champion One-Fire Variable Speed Electric Blower, as shown and described on page 10 attached, making a very practical Electric Blacksmith Outfit for those desiring a roomy heavy cast iron forge.

No.	Hearth	Height	Weight	Code
441	32 x 45"	30"	400 lbs.	Factavim

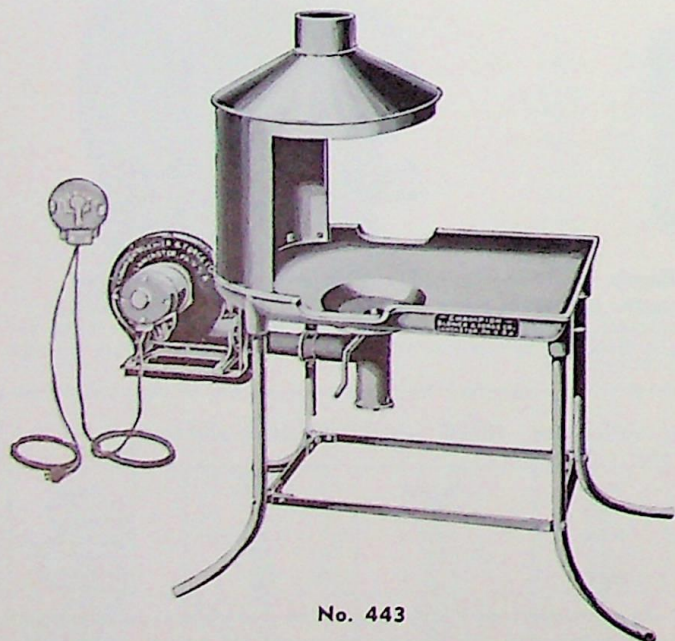
With water tank, extra



No. 441

CHAMPION ELECTRIC CAST IRON MACHINISTS' FORGE NO. 443

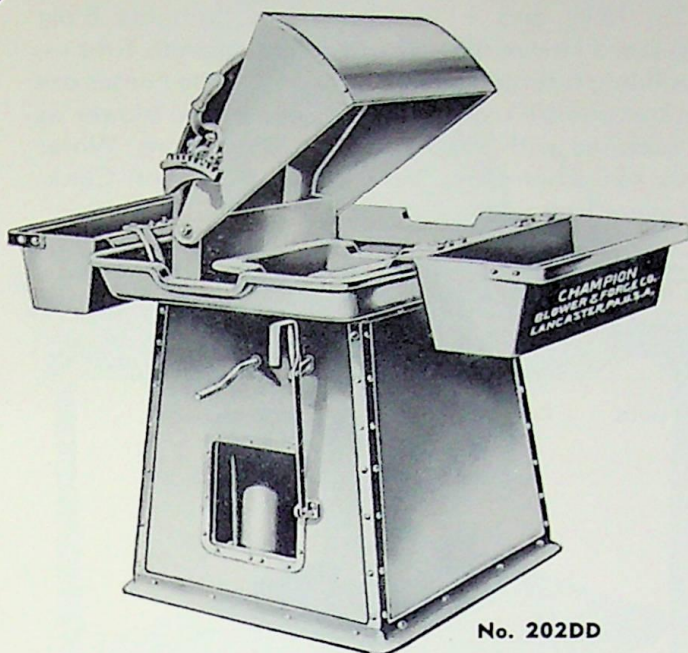
No. 443 Champion Electric Driven Cast Iron Machinists' Forge represents a medium size Hearth Forge, with the No. 50 Champion One-Fire Variable Speed Electric Blower, shown and described on page 10, which makes a particularly good forge for garage use in heating and tempering.



No. 443

No.	Hearth	Height	Weight	Code
443	23 x 35"	30"	250 lbs.	Fusames

CHAMPION STATIONARY DOWN DRAFT FORGES

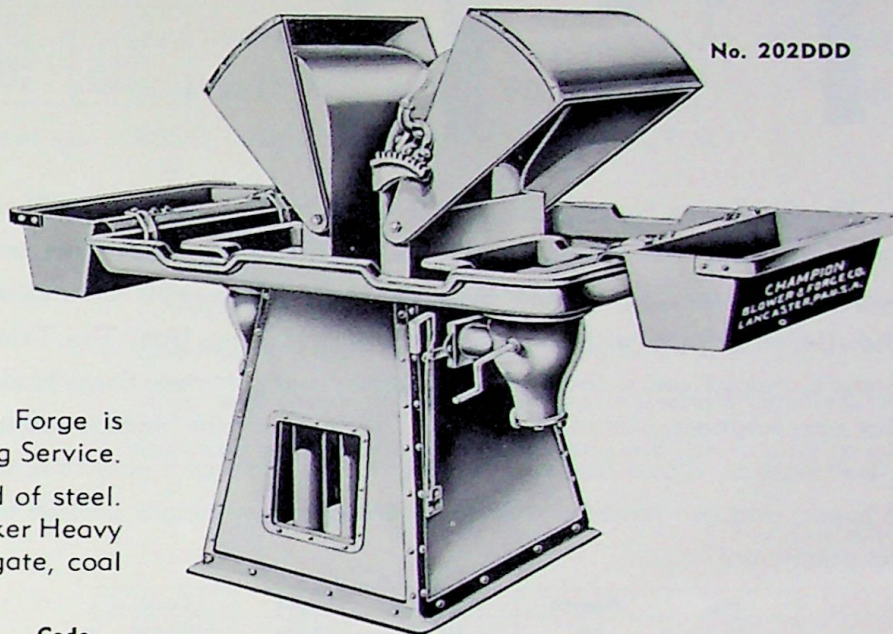


No. 202DD

No. 202DD Champion Stationary Down Draft Forge is one of the most popular types for Manual Training Service.

The hearth is cast iron, the base is constructed of steel. The No. 400 Champion Whirlwind Blast Anti-Clinker Heavy Nest Tuyere Iron is used. Furnished with blast gate, coal box and water tank.

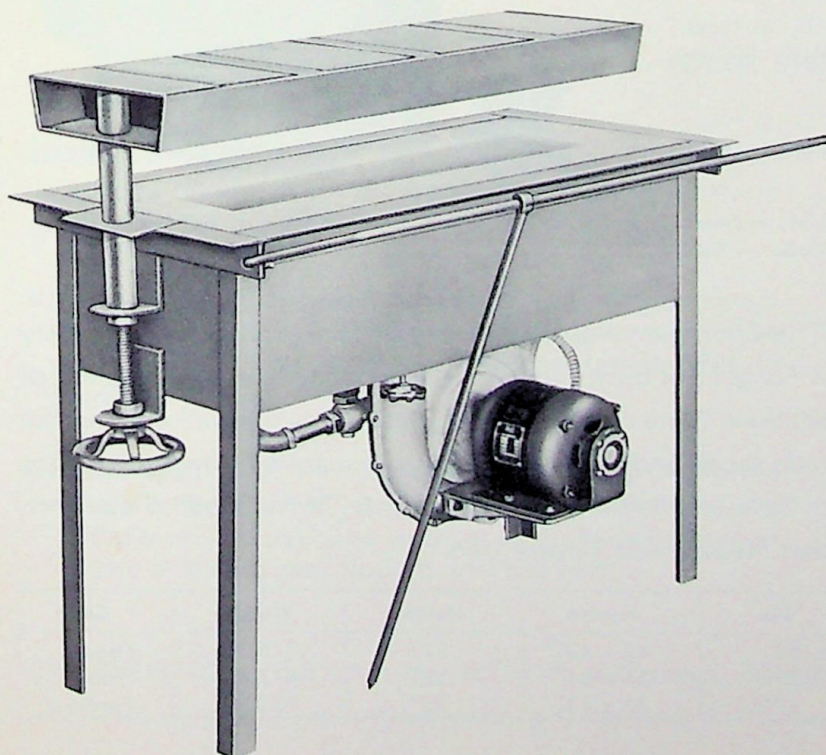
No.	Hearth	Height	Depth	Weight	Code
202DD	27 x 36"	29"	3 3/8"	552 lbs.	Famish



No. 202DDD

No. 202DDD is a double forge with two Tuyeres and hoods, especially adaptable where compactness is essential.

No.	Hearth	Height	Depth	Weight	Code
202DDD	59 x 36"	29"	3 3/8"	975 lbs.	Famished



CHAMPION GAS FIRED FORGE

Smokeless, Odorless, Quiet in Operation, Cannot Harm Metal

This forge does not involve the disposal of ashes, and is ready to use by turning on the blower switch and lighting the gas. Assure proper heating of metal in minimum time for two operators. Burns natural or manufactured gas.

The forge is especially adaptable for working in a closed building where smoke and excessive fumes would be objectionable. This forge is suitable for use in vocational education departments of schools.

The forge is equipped with a Solenoid safety valve so that when the motor is turned on, the valve opens permitting the gas to enter the forge thus preventing any back-firing.

The forge hearth is heavy steel construction lined with high temperature heat resisting cement. Forge is provided with four gas jets in the hearth, two of which can be turned off in order to confine the fire and economize on gas when small articles are to be heated. With the aid of a fire brick or two, the size of the hearth can be reduced, confining the heat to the area surrounding the two open gas jets.

This forge is unsurpassed in tempering plow shares and other tools that must be periodically sharpened.

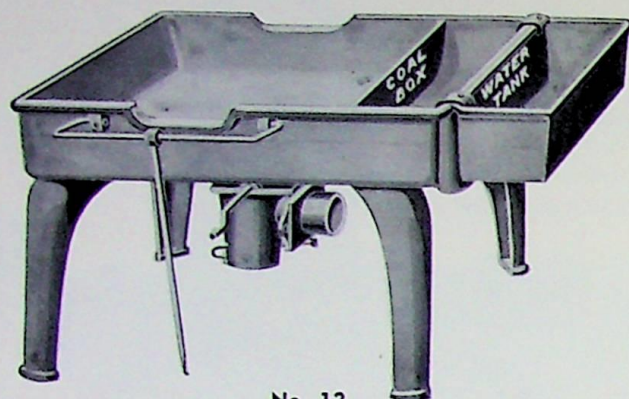
The CHAMPION GAS FIRED FORGE with electric blower for 115V., 60 C., 1 Phs., 1-3 H. P. with switch, cord and plug and 3/4" Solenoid safety gas valve, also fire cement reinforced hood with raising and lowering wheel.

Inside Hearth Dimensions — 25" long, 5" wide, 42" deep.

Width	Length	Height
19"	41 1/2"	35"

Shipping Weight — 585 Pounds

CHAMPION STATIONARY BLAST FORGES



No. 12

Nos. 12, 12½, 13½ and 11½ Champion Stationary Blast Forges are made Extra Heavy for all kinds of blacksmith fires — far superior to building a forge of brick or stone. These Forges are made for power but can be used for hand, or electric blower as well. They are supplied with the Champion Blast Gate, Water Tank and the No. 400 Champion "Whirlwind" Blast Anti-Clinker Heavy Nest Tuyere Iron without extra cost.

No.	Hearth	Height	Depth	Weight	Code
12	38 x 42"	26"	7"	400 lbs.	Faint
12½	39 x 52"	26"	7"	500 lbs.	Falated
13½	48 x 62"	26"	7"	720 lbs.	Falchion
11½	38 x 42"	26"	3½"	350 lbs.	Fragor

With Half Hood, extra.

Downdraft Hood, extra.

The Champion Nos. 35, 36 and 36½ Round Steel Stationary Blast Forges are built from Heavy Steel Plate and Structural Steel. They are supplied with the Champion Blast Gate, also No. 400 Champion "Whirlwind" Blast Anti-Clinker Heavy Nest Tuyere Iron. The Telescopic Canopy Hood is the most satisfactory and complete Forge Hood that ever has been placed on a Forge. The fact that the Hood is counter-balanced by a cast iron ring around the pipe makes it easy to raise or lower, and will remain without fastening at any height desired by the mechanic.

No.	Hearth	Height	Weight	Code
35	36"	30"	250 lbs.	Fallugie
36	48"	30"	375 lbs.	Fallunt
36½	60"	30"	600 lbs.	Falzone

Water Tank, extra.

Telescopic Hood, extra.

No. 35 Champion Telescopic Canopy Hood, 36 In. in Diam.; Pipe, 9 In. in Diam.; Maximum Length, 9 Ft. 2 In.; Minimum Length, 6 Ft. 10 In.; Weight, 100 lbs. Code — Fallwild.

No. 36 Champion Telescopic Canopy Hood, 42 In. in Diam.; Pipe, 9 In. in Diam.; Maximum Length, 9 Ft. 2 In.; Minimum Length, 6 Ft. 10 In.; Weight, 110 lbs. Code — Fallsur.

No. 36½ Champion Telescopic Canopy Hood, 54 In. in Diam.; Pipe, 9 In. in Diam.; Maximum Length, 10 Ft.; Minimum Length, 7 Ft.; Weight, 150 lbs. Code — Falsiclen.

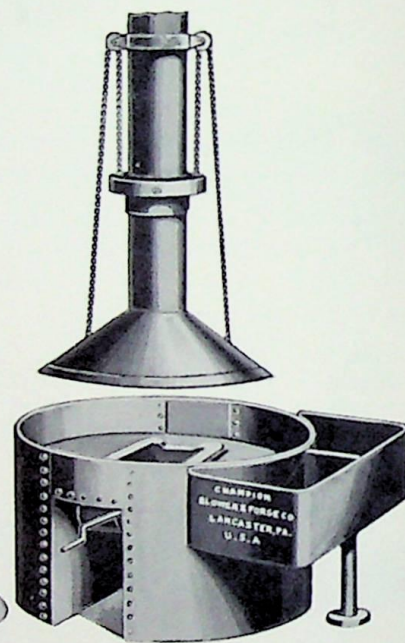


No. 38

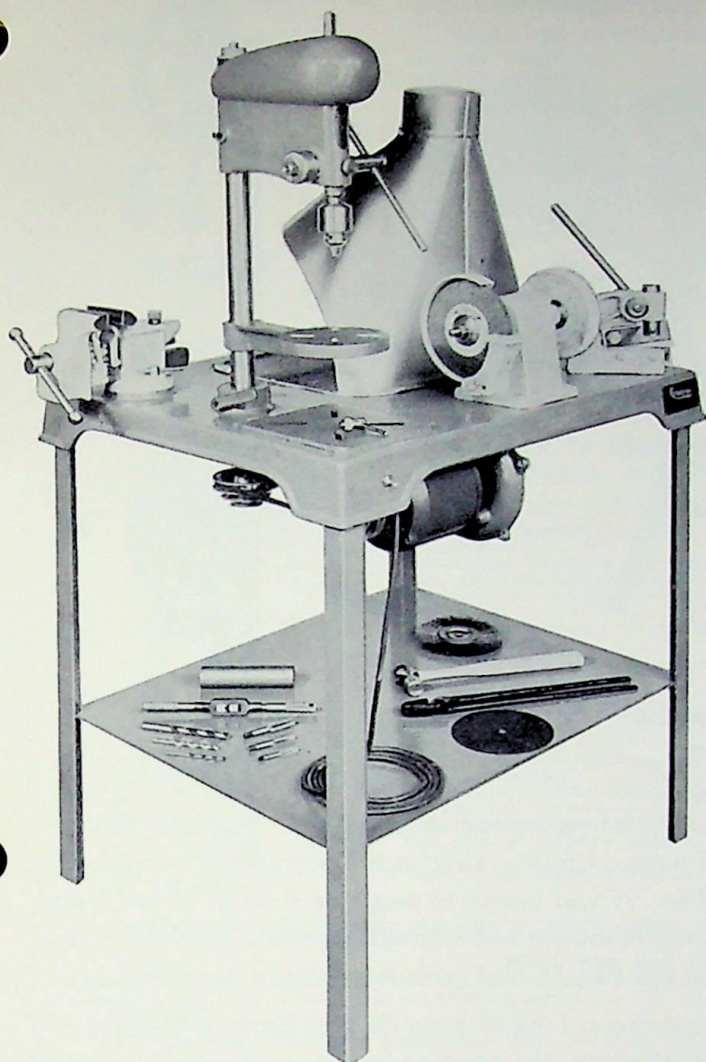
The Champion Nos. 38, 39 and 39½ Square Steel Stationary Blast Forges are built for the Heaviest shop work possible out of Heavy Steel Plate and Structural Steel. They are well adapted for railroad shops and shipyards. They are supplied with a Champion Blast Gate and the No. 400 Champion "Whirlwind" Blast Anti-Clinker Heavy Nest Tuyere Iron.

No.	Hearth	Height	Weight	Code
38	42 x 42"	25"	375 lbs.	Fagot
39	54 x 54"	25"	415 lbs.	Faror
39½	72 x 72"	25"	550 lbs.	Faralous

With Water Tank, extra.



No. 35



Champion NEW • ORIGINAL FORGE SHOP

A COMPACT WORKSHOP IN ONE UNIT FOR WORKING IRON, SHEET METAL, ALUMINUM OR BRASS. COMPLETE AND READY TO USE. FOR HOME WORKSHOP, HOBBYIST, FARM AND FACTORY.

CONSTRUCT — Metal Chairs, Tables, Benches, Magazine Racks, Trellises, Railings, Weather Vanes, Signs, Firetools, and many other interesting household articles. All tools and equipment necessary come with unit ready to run.

COMPLETE AT ONE PRICE

FORGE SHOP TOOLS

FORGE — Forge is used to heat metal of all kinds in order to bend, flatten or shape. Use regular smithing charcoal for fire to prevent smoking indoors.

VISE — 3½" steel jawed machinist vise with generous anvil and horn. Equipped with cut-off hardie. Vise swivels 180° and is conveniently mounted next to forge.

DRILL PRESS — A 14" 2 speed ½" capacity drill press v-belt driven from electric motor. Drill can be swung radially around over vise in order to drill work clamped in vise or swung over floor to drill big work.

GRINDER — Double bronze bearing v-belt driven by electric motor. Guarded at one end for grinding open at other end for polishing. Comes with 6 x ½" grinding wheel, wire wheel, polishing wheel and cut-off wheel.

SHEAR — 3" lever type shear. Capacity ¾" x ⅛" flat iron ⅛" round or suitable for notching or slitting sheet metal up to 14 gauge in steel aluminum or brass.

HAND TOOLS — consisting of fire tongs, Ball peen hammer, cut-off wheel, wire wheel, set of ¼", ⅜", ½" steel taps and drill bits to match, one routing high speed steel burr, tap wrench and round anvil for use in vise. Instruction manual with unit.

SPECIFICATIONS: 58½" high, 38" wide, 28" deep. Equipped with heavy duty 1/3 hp 110 volt single phase motor, cord, and plug to drive forge blower, grinder and drill press. Pipe and exhaust blower extra if required. Shipping Wt. 240 lbs.

Champion PORTABLE BARBECUE BROILER GRILL



**There's only One Champion
for better Barbecue**

No unnecessary preparations to start the fire, simply roll up a piece of newspaper and light it. Pour on the charcoal and turn the crank on the blower. Within two minutes you will have a broiling fire, thus eliminating the necessity of using kindling wood, kerosene, or other items to start a charcoal fire. If you desire to sear the food in order to seal in the juices, simply turn the crank on the blower several times and the resulting hot fire will do the work. Otherwise, when the blower is not in operation, a steady uniform fire will burn in the hearth and cook the food to perfection.

Champion Barbecue Grills are equipped with a solid skirt or shield around the fire, so that no draft or breezes will blow the heat from under the cooking grill, thus saving charcoal and allowing the heat to be concentrated evenly all over the food on the grill.

Champion Barbecue Grills are equipped with a 18" x 9" hardwood carving table on which to prepare the meats. This hardwood table will not dull a knife as a metal table will and will not become scuffed, scarred, or rusty from knife marks.

The Champion Barbecue Grill is equipped with wheels so that it can be moved around the yard and taken indoors as desired. It is put together with wing nuts so that it can be easily disassembled and stowed away in small quarters. The entire unit is finished with heat-resisting paint. The blower produces a hot fire on a moment's notice and the crank is easily turned in either direction to produce the draft.

FISH AND BEEF — Fish, steaks, and roasts we recommend cooking directly on the grill with a moderately hot fire.

FOWL — Chickens and other fowl should be split in half and cooked with the inside or rib side towards the fire for approximately one-half hour after which turn the fowl over with the meat side down for 10 to 15 minutes. There is no need to go through the long laborious task of using a spit.

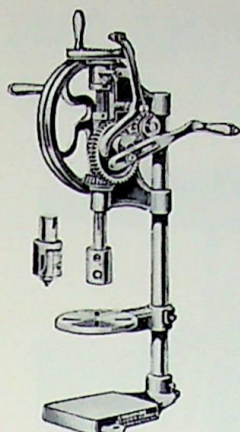
DOGGIES AND HAMBURGERS — Children like to cook

their own doggie on a fork directly in the fire. Hamburgers must be started in a pan in order to prevent them from breaking up and can be put on the open grill to obtain the charcoal taste after cooking.

CORN — We recommend cooking corn in the husks directly on the grill covering it with a wet burlap and from time to time rewetting the burlap.

POTATOES — Potatoes should be laid around the edge of the hearth in the coal bed before starting the fire. They will then be gradually roasted directly in the fire.

No. 3145-SW Champion Portable Barbecue Broiler Grill with rubber-tired wheels and 22" diameter cooking grill weighs — 68 pounds.



No. 104

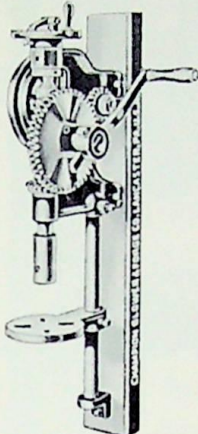
CHAMPION SELF-FEED BENCH DRILL NO. 104

Made with Ball Bearings

No. 104 Bench Drill is unusually low priced. Has lathe-turned and slotted table. Has two speeds for hand drilling.

SPECIFICATIONS

Drills to center of 12" circle.
Drills holes from 0 to 3/4".
Spindle, 7/8" in diameter; has up-and-down run of 3 inches.
Greatest distance from table to spindle, 73/4".
Greatest distance from spindle to base, 11 1/4".
Height over-all, 32 inches.
Spindle bored like Champion Never-Slip Chuck, for 1/2" shank drill bits; if specially ordered, to take 41/64" shank bits.
Weight, 70 lbs. Code — Fecond.
No. 104C Bench Drill, same as No. 104 Bench Drill, except equipped with 3-Jaw Chuck, taking straight shank bits up to 1/2 inch. Code — Fecondait.



No. 108

CHAMPION SELF-FEED POST DRILL NO. 108

Made with Ball Bearings

No. 108 Champion Post Drill is a low-priced, light-weight Drill.
Spindle has end-thrust Ball Bearings.
Has adjustable one-piece, slotted Table, which may be raised or lowered seven inches.
Flywheel 6 1/4 inches in diameter with 1 3/4 inch face.
Has Adjustable Crank — one revolution of which makes three revolutions of the fly wheel.

SPECIFICATIONS

Drills to center of 8" circle.
Drills from 0 to 1/2"-inch.
Spindle 7/8-inch in diameter, has up-and-down run of 1 5/8".
Greatest distance from table to spindle, 8".
Height of drill, 26 inches.
Spindle bored to take 1/2" straight shank drill bits if specially ordered, to take 41/64".
Weight, 29 lbs. Code — Fasque.

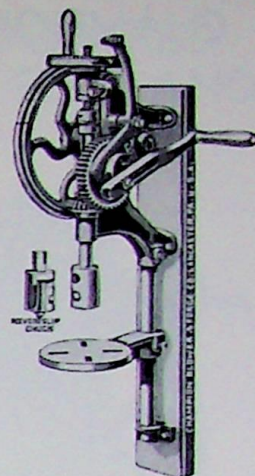
CHAMPION SELF-FEED POST DRILL NO. 103

Made with Ball Bearings

No. 103 Champion Post Drill is the lowest priced Back-Geared Self-Feed Post Drill built.

Spindle has end-thrust ball bearings. It has lathe-turned and slotted table. Has two speeds for hand drilling.

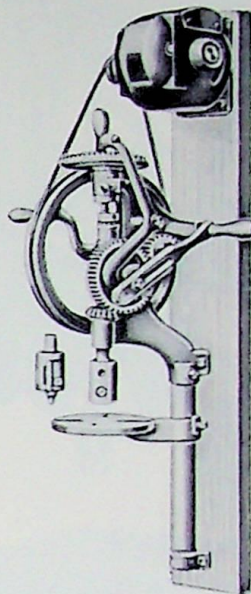
No. 1000 Utility Drill is same as No. 103 Drill described above, equipped with an adjustable Three-Jaw Chuck.



No. 103

SPECIFICATIONS

Drills to center of 12-inch circle.
Drills holes from 0 to 1 inch.
Spindle, 7/8 inch in diameter; has up-and-down run of 3 inches.
Greatest distance from table to spindle, 8 3/4 inches.
Height of drill, 31". Spindle bored like Champion Never-Slip Chuck to take 1/2-inch straight shank drill bits; if specially ordered, to take 41/64-inch.
Weight, 60 lbs. Code—Fascher.



No. 110

CHAMPION SELF-FEED MOTOR DRIVEN POST DRILL NO. 110

Made with Ball Bearings

No. 110 Champion Motor Driven Post Drill is same as No. 103 Drill described above with 1/4 HP Electric Motor 110 volt A.C. and V Belt in one complete unit. Weight, 85 lbs. Code—Fascher.

CHAMPION THREE-GEARED SELF-FEED POST DRILL NOS. 95, 96 and 4

Made with Ball Bearings

Nos. 95, 96 and 4 Champion Self-Feed Three-Geared Ball Bearing Post Drills are stocky in design. Have three gears to give second speed some turning direction of the crank as the first speed. Lathe-turned and slotted table.

No. 96 Champion Automatic Quick-Return Self-Feed Post Drill stands without a rival in its class in the markets of today.

The Quick-Return Lever is thrown into place while the Drill continues in motion, where it remains until the bit is raised out of the work and automatically stops.

DRILLS FURNISHED WITH A TURNED FLY WHEEL FOR V OR FLAT BELT FOR POWER.

CHAMPION SELF-FEED POST DRILL NOS. 98, 101 and 90

No. 98, 101 and 90 Champion Post Drill has two speeds for hand drilling.
Spindle has End Thrust Ball Bearings.
It has lathe-turned and slotted table.
Spindle bored like Champion Never-Slip Chuck to take 1/2-inch Straight Shank Drill Bits. If especially ordered, to take 41/64 inch.

SPECIFICATIONS NO. 90

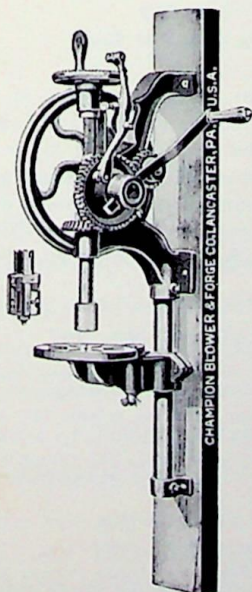
Drills to the center of a 14 1/2-inch circle.
Drills from 0 to 1 1/4-inch hole.
Spindle, 1 1/8 inches in diameter has up-and-down run of 3 inches.
Greatest distance from table to spindle, 10 inches. Height of drill, 43 inches.
Spindle bored like Champion Never-Slip Chuck to take in 1/2-inch Straight Shank Drill Bits. If especially ordered, to take 41/64 inch.
Weight, 100 lbs. Code — Febrile.

SPECIFICATIONS NO. 98

Drills to the center of a 14-inch circle.
Drills from 0 to 1 1/4-inch hole.
Spindle, 1 inch in diameter; has up-and-down run of 3 inches.
Greatest distance from table to spindle, 10 inches. Height of drill, 40 inches.
Weight, 95 lbs. Code — Fearless.

SPECIFICATIONS NO. 101

Drills to the center of 12-inch circle.
Drills from 0 to 1-inch hole.
Spindle, 7/8 inch in diameter has up-and-down run of 3 inches.
Greatest distance from table to spindle, 8 3/4 inches.
Height of drill, 35 inches.
Weight, 75 lbs. Code — Fesapo.



No. 98

SPECIFICATIONS NO. 95

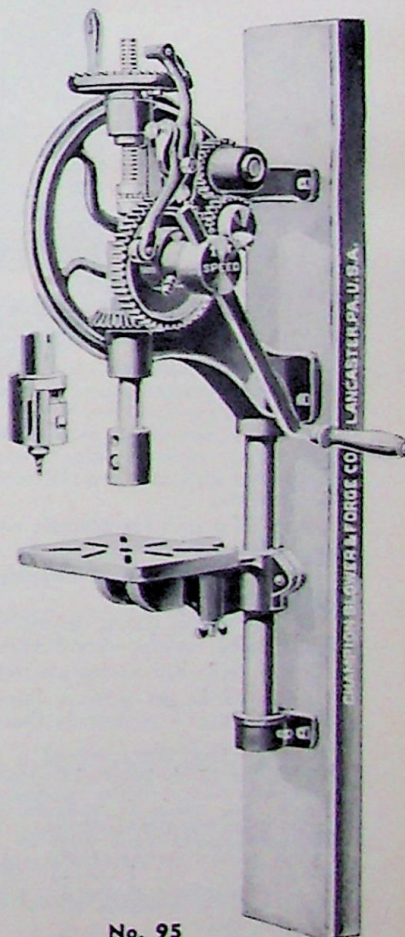
Drills to the center of a 16-inch circle.
Drills from 0 to 1 1/4-inch hole.
Spindle, 1 1/8 inches in diameter; has up-and-down run of 3 inches.
Greatest distance from table to spindle 10 inches. Height of drill, 46 inches.
Spindle bored like Champion Never-Slip Chuck to take in 1/2-inch Straight Shank Drill Bits. If especially ordered, to take 41/64 inch.
Weight, 110 lbs. Code — Feenland.

SPECIFICATIONS NO. 96

Drills to the center of a 15 1/2-inch circle.
Drills holes from 0 to 1 1/2 inches.
Spindle, 1 1/8 inches in diameter has up-and-down run of 3 inches.
Greatest distance from table to spindle, 9 3/4 inches. Height of drill, 46 inches.
Spindle bored like Champion Never-Slip Chuck to take in 1/2-inch Straight Shank Drill Bits. If especially ordered, to take 41/64 inch.
Weight, 135 lbs. Code — Feather.

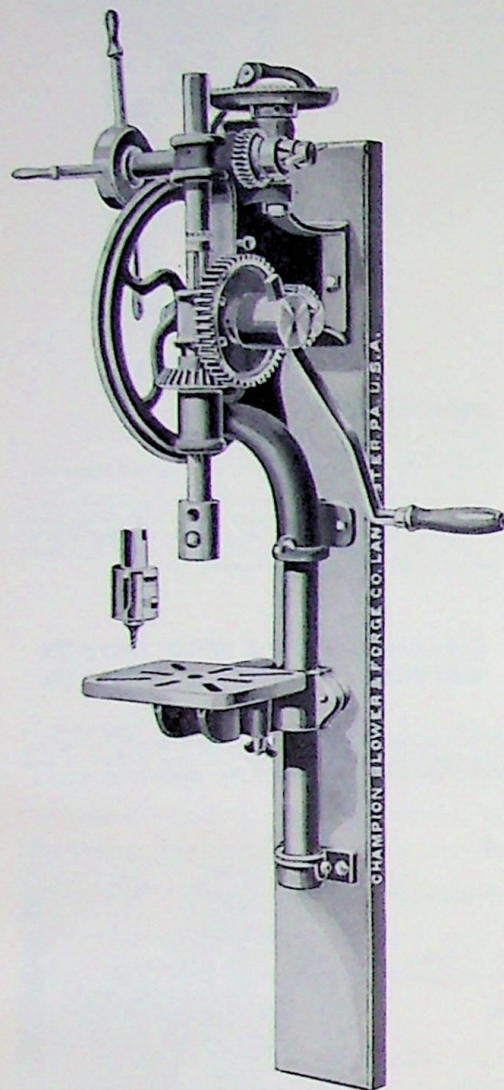
SPECIFICATIONS NO. 4

Drills to the center of an 18-inch circle.
Drills from 0 to 1 1/2 inches.
Spindle, 1 1/4 inches in diameter; has up-and-down run of 5 inches.
Greatest distance from table to spindle, 15 inches. Height of drill, 54 inches.
Spindle bored like Champion Never-Slip Chuck to take in 1/2-inch Straight Shank Drill Bits. If especially ordered, to take 41/64 inch.
Weight, 200 lbs. Code — Fenuscilis.



No. 95

CHAMPION HAND-FEED AND QUICK-RETURN SELF-FEED POST DRILLS MADE WITH BALL BEARINGS



No. 97

No. 97 Champion Self-Feed and Hand-Feed Quick-Return Drill on both speeds has the Propeller Wheel Hand-Feed and Self-Feed independent of each other and for quick work the hand-feed acts as the quick return for the Drill Bit.

A capital drill for garages and battery service stations.

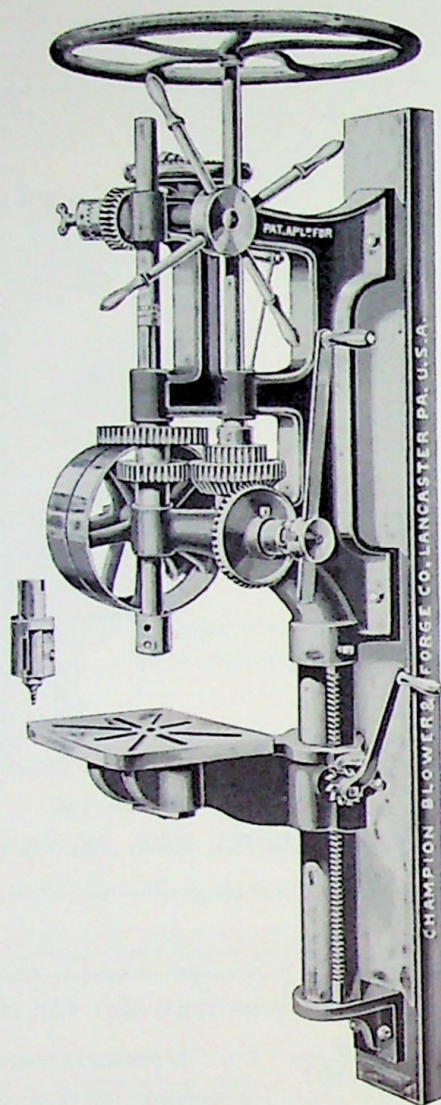
The End Thrust Ball Bearings save 50 per cent in power.

It has three gears, giving second speed same turning direction as first.

It has lathe-turned and slotted table. It is furnished with a turned fly wheel for V or Flat Belt for Power.

SPECIFICATIONS

Drills to the center of 17-inch circle.
Drills holes from 0 to $1\frac{1}{4}$ inches.
Spindle, $1\frac{1}{8}$ inches in diameter; has up-and-down run of $5\frac{1}{2}$ inches.
Greatest distance from table to spindle, $12\frac{1}{2}$ inches. Height of drill, 50 inches.
Spindle bored like Champion Never-Slip Chuck to take in $\frac{1}{2}$ -inch Straight Shank Drill Bits. If especially ordered, to take $\frac{41}{64}$ -inch.
Weight, 165 lbs. Code — Fease.

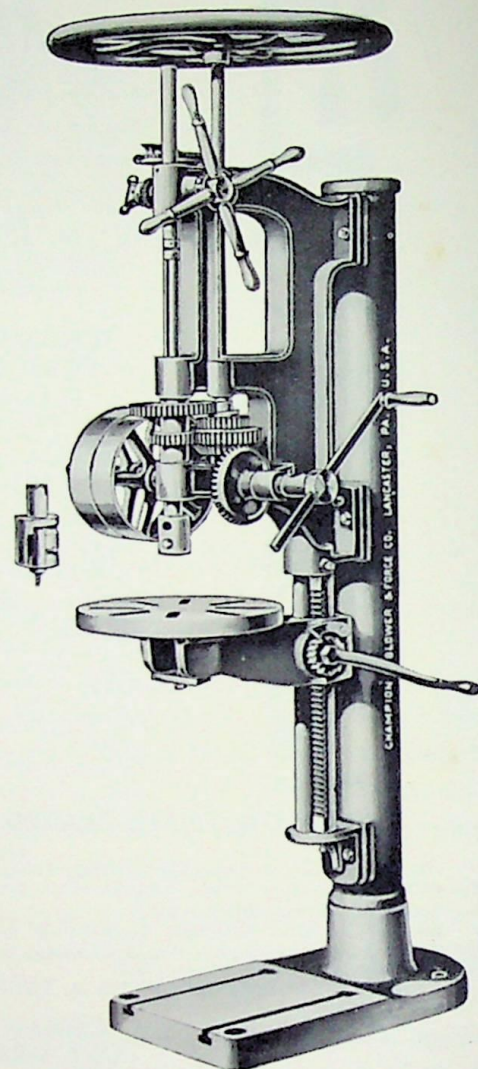


No. 297
Made with Cut Gears

Nos. 297 and 397 Champion Self-Feed and Hand-Feed Quick-Return Drills represent a large Drill, equipped with both self-feed and hand-feed. The Propeller Wheel Hand-Feed and Self-Feed are independent of each other. The hand-feed acts as a quick return for the drill bit. The Upright Fly-Wheel Shaft runs on frictionless End Thrust Ball Bearings on its lower end, and is supplied with a heavy fly-wheel for keeping up momentum. It has double Back Cut Gears with two speeds, and to change from fast to slow is accomplished by sliding the cut gears. The Table is raised and lowered by a Rack and can be turned back out of the way. It has End Thrust Ball Bearings which save 50 per cent in power. It has lathe-turned and slotted table.

SPECIFICATIONS NO. 297

Spindle, $1\frac{1}{4}$ inches in diameter; has up-and-down run of 9 inches. Drills holes up to $1\frac{1}{2}$ inches.
Greatest distance from table to spindle, 19 inches.
Height of drill, 72 inches.
Spindle bored like Champion Never-Slip Chuck to take $\frac{41}{64}$ -inch Straight Shank Bits. If especially ordered, to take $\frac{1}{2}$ -inch.
Drills to the center of a 24-inch circle.
Weight, 425 lbs. Code — Fide.
No. 297P Drill, with Tight and Loose Pulleys, 11 inch Diameter and $2\frac{1}{2}$ -inch Face, for Hand and Power Combined. Speed, 80 R. P. M. Weight, 435 lbs.
Code — Fibit.



No. 397
Made with Cut Gears

SPECIFICATIONS NO. 397

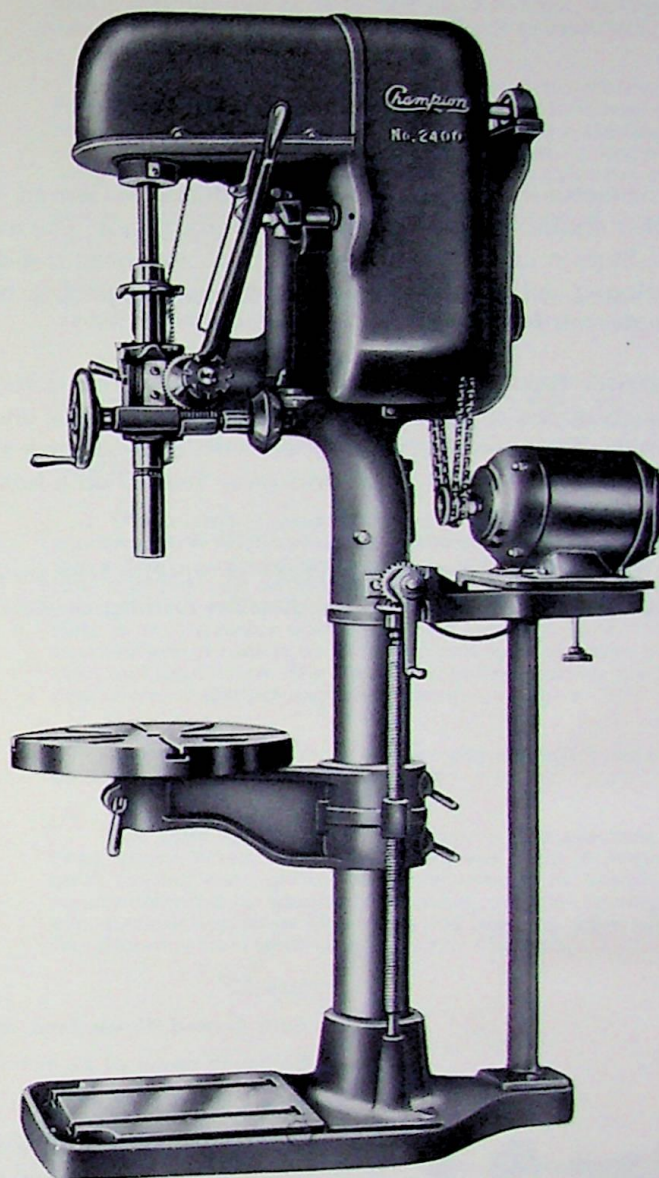
Spindle, $1\frac{1}{4}$ inches in diameter; has up-and-down run of 9 inches. Drills holes up to $1\frac{1}{2}$ inches.
Greatest distance from table to spindle, 19 inches.
Height of drill, 72 inches.
Spindle bored like Champion Never-Slip Chuck to take $\frac{41}{64}$ -inch Straight Shank Bits. If especially ordered, to take $\frac{1}{2}$ -inch.
Drills to the center of a 24-inch circle.
Weight, 760 lbs. Code — Fride.
No. 397P Drill, with Tight and Loose Pulleys 11 inch Diameter and $2\frac{1}{2}$ -inch Face, for Hand and Power Combined. Speed, 80 R. P. M. Weight 785 lbs.
Code — Fribit.

CHAMPION NO. 2400 24-INCH BALL-BEARING BACK-GEARED UPRIGHT POWER DRILL WITH LEVER, WHEEL, POWER FEED AND AUTOMATIC STOP

Champion No. 2400 Ball Bearing Back Geared Floor Drill is designed for production work and general work in machine shops and repair shops and is equipped throughout with high grade heavy duty ball bearings. All drives are V-belt or gear driven. All gears are accurately machine cut.

Drill is equipped for speed variations of between 25 RPM and 680 RPM and has three distinct power feeds. All moving parts are guarded with totally inclosed easily removable guards. The drill has power, lever, and wheel feed with automatic depth stop. Table and base are accurately machined and contain T-slots.

Capacity with a 1½ HP motor is 1½" in steel, however, with high speed or carbide bits the larger drilling and boring can be done. Motor base is suitable for mounting larger horsepower motor.



SPECIFICATIONS

Size 24"
 Height of Drill, 79".
 Distance between table and spindle, 28½".
 Distance between spindle and base, 44".
 Distance from column to center of spindle, 12¼".
 Diameter of Column, 5¼".
 Travel of Table on Column, 21".
 Diameter of Table, 18¾".
 Eight Spindle Speeds
 Direct 130-220-390-680
 Back gears 25-45-72-120
 Diameter of Spindle, 1¼".

Capacity — 1½" hole
 Traverse of Spindle, 12".
 The Power Feed per revolution of spindle for various steps on Power Feed .002, .005, .008.
 Hole in Spindle to fit standard No. 4 Morse Taper.
 Floor Space required, 18½" x 36".
 Horsepower required, 1½ HP.
 Weight, 1250 lbs.

No. 2400 with V Double Belt Drive with 1½ HP Motor current and voltage as ordered.

Can be furnished less Motor with 2 V Belts and Motor Pulleys — any bore to fit your Motor.

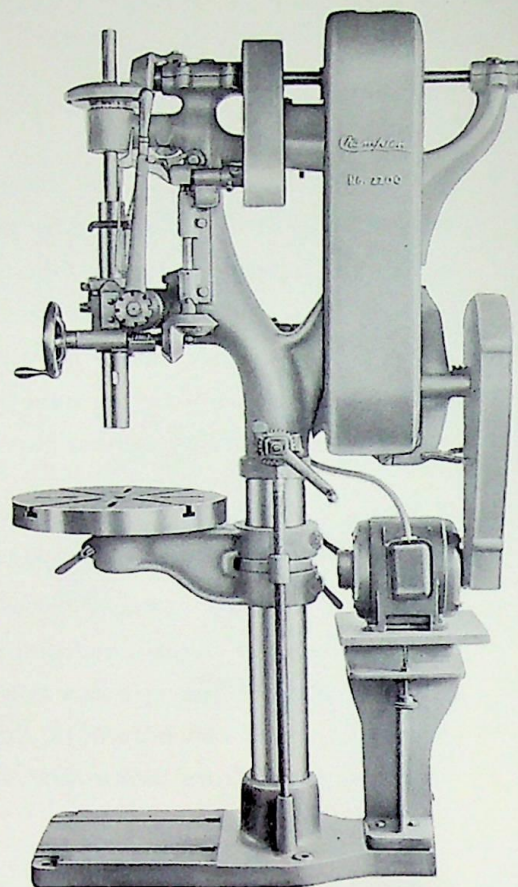
Champion No. 2400 Drill can be furnished with Positive Gear Feed if so ordered.

CHAMPION 2200 BACK-GEARED UPRIGHT V-BELT POWER DRILL WITH LEVER, WHEEL, POWER FEED AND AUTOMATIC STOP

The new and improved Champion 2200 Back-Geared Power Drill is completely equipped with V-belt drives throughout. The motor drives through V-Belts a countershaft on which is mounted a 4-step V-Belt pulley equipped with Veelox Belts which are adjustable and can be easily transferred from one step to another.

The power feed is V-Belt driven with an automatic tension idler. The drill is equipped throughout with machine cut gears and anti-friction bearings. The spindle is equipped with ball-bearing thrust. The drill has power feed, wheel feed, and lever feed. Table has T-slots as well as the base.

This machine will give many years of trouble free service in machine shops and can be used on production drilling as well as garage work.



Complete with guards

SPECIFICATIONS

Size 22".

Back Geared, Power Feed and Automatic Stop.

Swings to center of 22-inch circle.

Height of drill, 77 inches.

Column diameter, 5 1/4 inches.

Table diameter, 18 inches.

Vertical travel on column, 21 inches.

Spindle diameter in sleeve, 1 3/8 inches.

Spindle travel, 12 inches.

Eight Spindle Speeds — 405, 235, 138, 80, 73, 42, 25, 15 R.P.M.

Distance between table and spindle, 27 3/4 inches.

Distance between spindle and base, 43 inches.

Distance from column to center of spindle, 11 inches.

Power Feeds per revolution of spindle for various belt steps on power feed .002, .005, .008.

Hole in spindle bored to fit No. 4 Morse Taper.

Capacity 1 1/2 hole.

Base has T slots.

Three distinct complete feeds — power feed, wheel feed and lever feed.

2200 Electric V-Belt Drive Drill with 1 H. P. Motor current and voltage as ordered. Weight 1250 lbs. **Code** — Figilnose.

Can be furnished less Motor with 2 V-Belts and double V Motor Pulley, any bore to suit your Motor.

Spindle speeds — 8 with use of back gears.

Capacity — drills 0 to 1 1/2 inches.

Diameter of crown gear, 6 7/8 inches.

Diameter of bevel pinion, 4 inches.

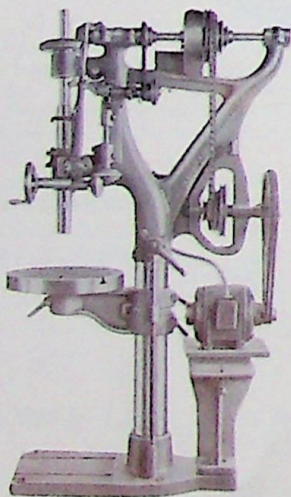
Pitch of crown gear and pinion gear, 6. Crown gear, 40 teeth. Pinion gear, 21 teeth.

Bearings split on upper shaft are 7 inches long.

Phosphor bronze bearings in head.

Floor space, 16 x 46 inches.

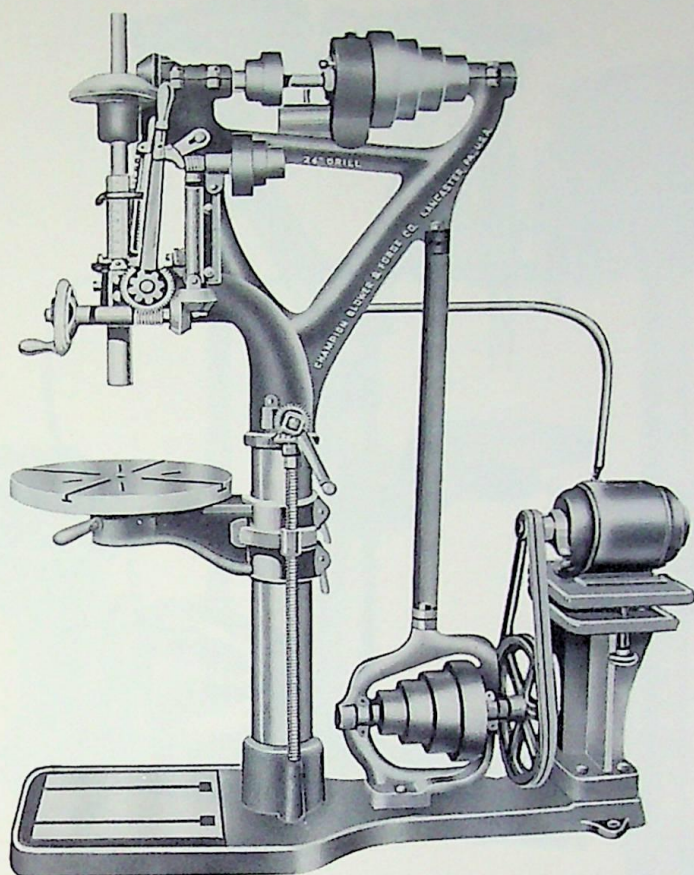
H.P. required — 1 H.P.



Without guards

Champion 2200 Back-Geared Upright Power Drill can be furnished with Positive Gear Feed if so ordered.

CHAMPION 24-INCH BACK-GEARED UPRIGHT POWER DRILL WITH LEVER, WHEEL, POWER FEED AND AUTOMATIC STOP



V-Belt Motor Driven

The 24-Inch Back-Geared Power Drill is constructed to withstand heavy work, as well as light and rapid drilling, making the best all-round drill on the market for general repair or manufacturing purposes.

This Drill has been especially designed for reboring cylinders on Ford Motor Cars, as well as Fordson Tractor cylinders, as the spindle has a 12-inch up-and-down run, and with this exceptionally long traverse of the spindle enables the user to re bore cylinders from top to bottom of practically all makes of Motor Car Cylinders on one setting, thus enabling the operator to do a class of work which heretofore required a 25-inch Drill, meaning an expenditure of almost double the cost of this Drill.

The brace being placed between the center of cone pulleys makes a rigid connection from top of drill to base, eliminating vibration.

The Crown Gear runs in a Phosphor Bronze Bushing of the highest grade, and the Crown Gear is also equipped with an End Thrust Ball Bearing, which reduces the friction and eliminates the wearing of upper end of Crown Gear Bearing, thus insuring easier running and durability.

The Spindle is graduated and is ground to a micrometer fit and equipped with frictionless ball bearings. All Gears are machine cut scientifically accurate, which insures silent running and long life. The long split bearings on top of horizontal shaft allow for taking up wear when necessary. The Drill is made with Planed Square Base having T-slots to enable heavy work to be held firmly to base. The base is constructed with a pocket on each side and front to retain oil or drippings from tool lubrication. The lower cone pulley bearings are equipped with ring oilers — another exclusive Champion feature.

The change from plain to back-geared Drill is done in an instant by a movement of the eccentric shaft.

Has eight speeds with three distinct and complete feeds: Power Feed, Hand Wheel Feed and Lever Feed. Has Automatic Stop with quick-return lever giving rapid movement to Spindle. Spindle is counterbalanced by special cable chain attached to weight in column. Has quick-acting screw for raising and lowering table. Drills with perfect accuracy from smallest holes up to 1½-inch.

SPECIFICATIONS

Size 24"

Height of drill, 76 inches.

Distance between table and spindle, 27½ inches.

Distance between spindle and base, 43 inches.

Distance from column to center of spindle, 12¼ inches.

Diameter of column, 5¼ inches.

Traverse of table on column, 21 inches.

Diameter of table, 18 inches.

24" Electric V-belt drive with 1 H. P. Motor current and voltage as ordered. Weight 1410 lbs. **Code** — Fiedmas.

Can be furnished less Motor with 2 V Belts and Double V Motor Pulley any bore to suit your Motor.

Can be furnished Electric Gear Driven if preferred to V-Belt Drive. Weight 1440 lbs. with Motor.

Capacity 1½"

24" Back-Geared Belt Driven Drill with tight and loose pulleys 8" x 2¾" to run at 300 R.P.M. as illustrated. Weight 1025 lbs. **Code** — Figad.

Eight Spindle Speeds — 405, 235, 138, 80, 73, 42, 25, 15 R.P.M.

Diameter of spindle, 1¼ inches.

Traverse of spindle, 12 inches.

The Power Feeds per revolution of spindle for the various steps on power feed, .002, .005, .008.

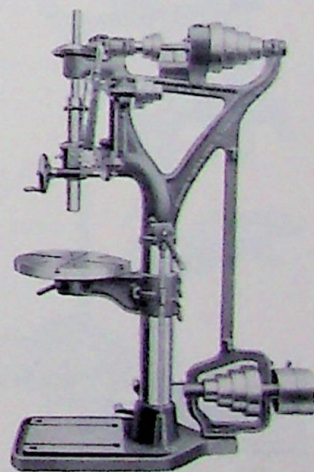
Hole in spindle bored to fit Morse Taper No. 4.

Size of cone pulleys (4-step), 4, 5¾, 7½, 9 x 2 in. face.

Floor space required, 19½ x 47 inches.

Horse Power required, 1.

Code — Finjan.



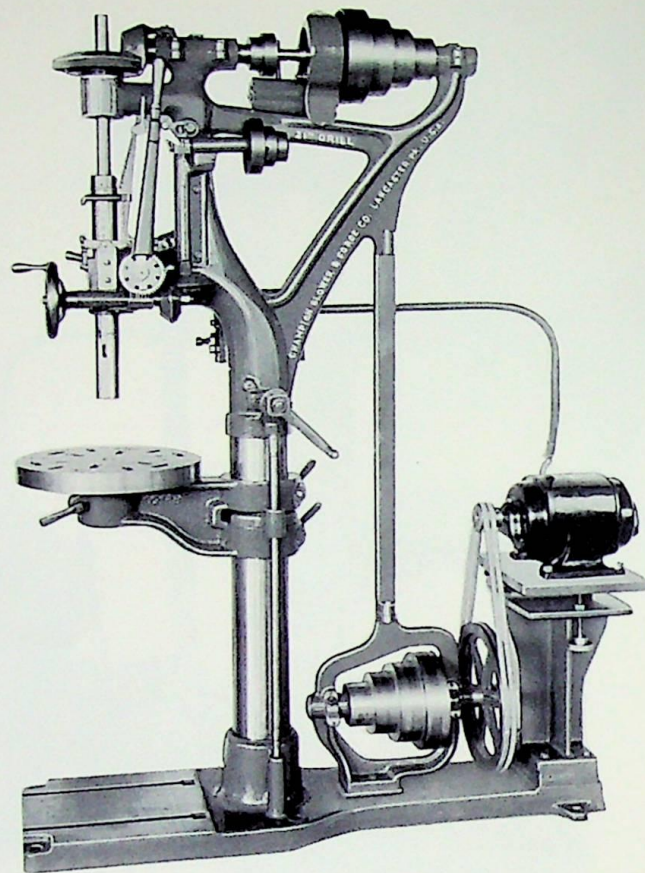
Belt Driven

Champion 24-inch Back-Geared Upright Power Drill can be furnished with Positive Gear feed if so ordered.

CHAMPION 21-INCH BACK-GEARED UPRIGHT POWER DRILL WITH LEVER, WHEEL, POWER FEED AND AUTOMATIC STOP

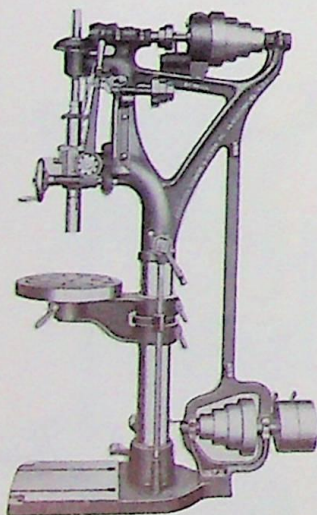
The new improved Champion 21" Back-Geared Drill combines all the modern features of higher priced drills. It is built to take a wide range of work for repair shops, small machine shops, and garages.

The drill is equipped with accurately machine cut gears, ground spindle, ball thrust bearings and spindle, anti-friction sleeve bearings throughout with provisions to take up wear. Drill is equipped with power feed and automatic stop. It also has lever and wheel feed for hand operations.



V-Belt Motor Driven

SPECIFICATIONS



Belt Driven

Back Geared, Power Feed and Automatic Stop.

Swings to center of 21½-inch circle.

Height of drill, 77 inches.

Column diameter, 5¼ inches.

Table diameter, 16 inches.

Vertical travel on column, 21 inches.

Spindle diameter in sleeve, 1⅞ inches.

Spindle travel, 12 inches.

Eight Spindle Speeds — 405, 235, 138, 80, 73, 42, 25, 15 R.P.M.

Distance between table and spindle, 27¾ inches.

Distance between spindle and base, 43 inches.

Distance from column to center of spindle, 10¾ inches.

Power Feeds per revolution of spindle for various cone steps on power feed .002, .005, .008.

Size of cone pulleys (4-step) 4, 5¾, 7½, 9 x 2-inch face.

Hole in spindle bored to fit No. 4 Morse Taper Base has T-slots.

Three distinct complete feeds — power feed,

wheel feed and lever feed.

21" Electric V Belt Drive Drill with 1 H.P. Motor current and voltage as ordered. Weight 1200 lbs. **Code** — Figlinos.

Can be furnished less Motor with 2 V-belts and double V Motor Pulley, any bore to suit your Motor.

Can be furnished Electric Gear Driven if preferred to V Belt Drive. Weight 1200 lbs. **Code** — Finiront.

21" Back-Geared Belt Driven Drill with tight and loose pulleys 8" x 2¾" to run at 300 R.P.M. as illustrated. Weight 950 lbs. **Code** — Figlin.

Spindle speeds — 8 with use of back gears.

Capacity — drills 0 to 1½ inches.

Diameter of crown gear, 6⅞ inches.

Diameter of bevel pinion, 4 inches.

Pitch of crown gear and pinion gear, 6. Crown gear, 40 teeth. Pinion gear, 21 teeth.

Bearings split on upper shaft are 7 inches long.

Phosphor bronze bearings in head.

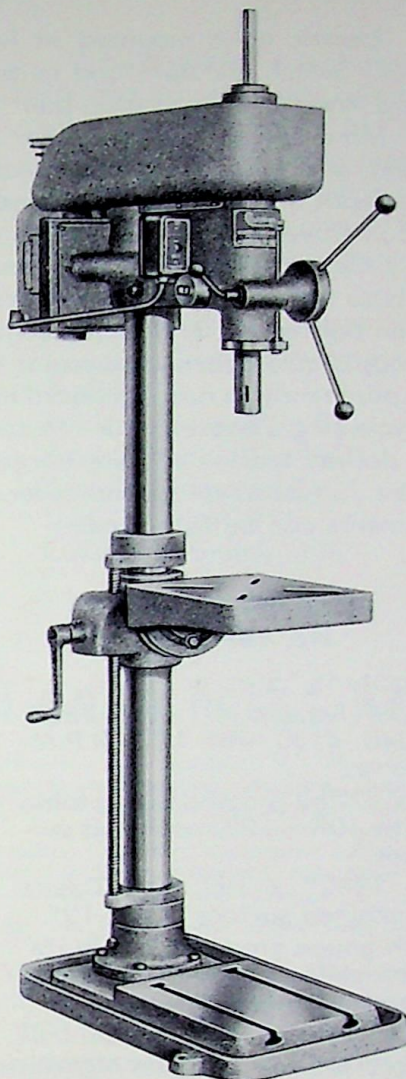
Floor space, 16 x 46 inches.

H.P. required — 1 H.P.

Champion 21-inch Back-Geared Upright Power Drill can be furnished with Positive Gear Feed if so ordered.

CHAMPION NO. 2000 HIGH SPEED DRILL

Swings to Center of 20-inch Circle



A high-grade full ball-bearing production drill up to 1" capacity.
 A stocky direct V-belt drill, has six speeds, taking a large range of work.
 Table raises and lowers with crank, all gears being enclosed.
 Table tilts to any angle up to 45 degrees and can be swung out of the way.
 Drill-head is clamped to ground column, can be raised or lowered or swung completely around.
 Table has four slots and base two T-slots.
 Depth gauge for drilling can be set to drill any depth desired up to 5".
 Spindle is graduated in 1/16", and is bored for No. 3 Morse Taper Shank Bits.
 Belt Guard is streamlined, light and strong.
 Drill can be equipped with either 1-H.P. ball-bearing motor for capacity up to 1", or 1/2-H.P. ball-bearing motor for capacity up to 3/4" and Switch; or can be furnished less motor.

Height 68 in.
 Six speeds — 340, 620, 1170, 1750, 2365, 3080 R.P.M.
 with 1750 R.P.M. Motor.

Distance spindle to table 27 in.
 Distance spindle to base 43 3/4 in.
 Distance from column to center spindle 10 1/2 in.
 Size of table 14 1/2 in. x 12 1/4 in.
 Table raises and lowers 18 in.

Diameter of spindle 7/8 in.
 Traverse of spindle 5 in.

Diameter of column 3 1/2 in.
 Machined base 15 1/4 in. x 12 1/4 in.
 Base overall 28 in. x 16 1/2 in.
 Weight with 1-H.P. motor, 615 lbs. Code—Celadas
 Weight with 1/2-H. P. motor, 585 lbs. Code—Celabunt
 Weight less motor, 525 lbs. Code—Celentes

NO. 16F AND 16B CHAMPION DELUXE DRILL

The Latest Design 16" Production Utility and Tool Room Drill of 1/2" Capacity

This drill contains all modern features. Electric light mounted in head, illuminating completely all working surfaces yet shielded from the operator's eyes. Switch for light and to start and stop electric motor mounted convenient to the operator at the head of the guard. Machine is precision built with floating spindle ball bearing through-out. Main frame adjustable for spindle quill wear. Spindle is accurately ground, and is adjustable for wear. Depth gauge can be set to drill any desired depth which is graduated and has lock nut to set the drill up to 4 inches the full travel of Spindle. Spindle can be locked in any position for use with rotary files or grinders in die making work. Drill furnished with oil groove table and base with T-slots in base. Motor is mounted on an adjustable base so belt can be tightened. Drill comes complete with three jaw key geared 1/2" capacity adjustable chuck, also motor and light completely wired to 10-foot cord with plug ready to run. Standard machine includes a 1/3 horsepower 110 volt 60 cycle single phase motor. Motor is mounted on an adjustable slide base to give desired tension on belt. Larger motors and other current characteristics can be furnished on special order. Also a slotted table for woodworking attachments can be furnished.

SPECIFICATIONS

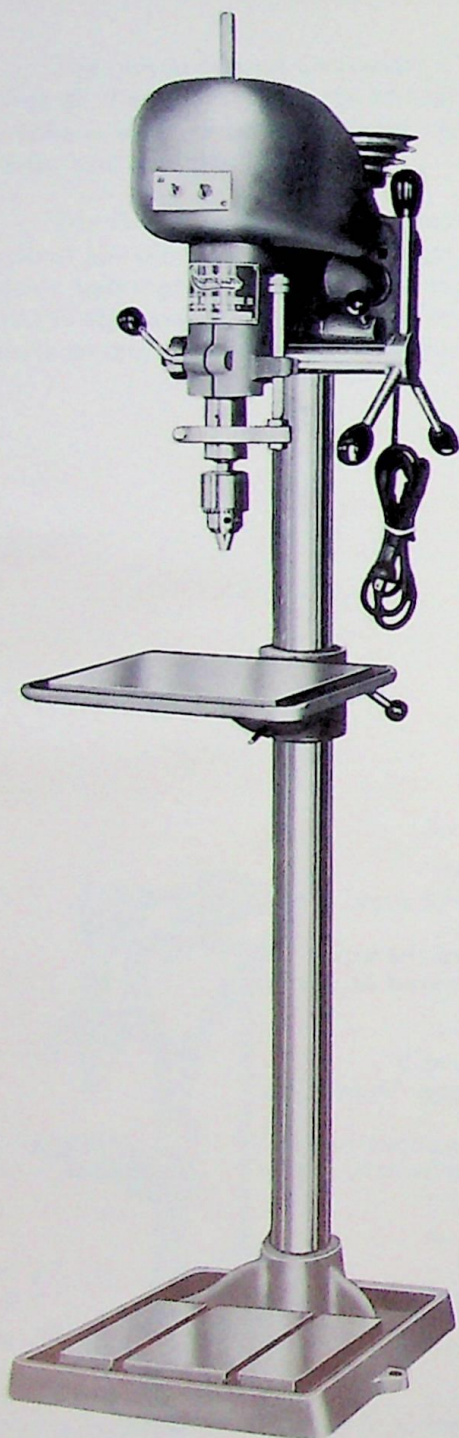
No. 16F Drill

Capacity 1/2" Steel or Iron.
Spindle Speeds — 690, 1300, 2240, 4130, with 1725 R.P.M. motor.
12" x 12" oil grooved tilting table with 10" x 10" machined surface.
Base 13 1/4" x 19" with T-slots machined surface 10" x 10".
Depth gauge graduated in 1/16" stop collar can be set for any depth drill up to 4".
Spindle floating type 5/8" full ball bearing 4" up and down travel.
Chuck Jacobs 1/2" with wrench.
Distance between chuck and base, 46 inches.
Column 2 3/4" precision ground heavy tubing.
Height, 68 inches.
Motor required 1/3 H.P. 1725 R.P.M. vertical mounted.
Shipping weight, 230 pounds.

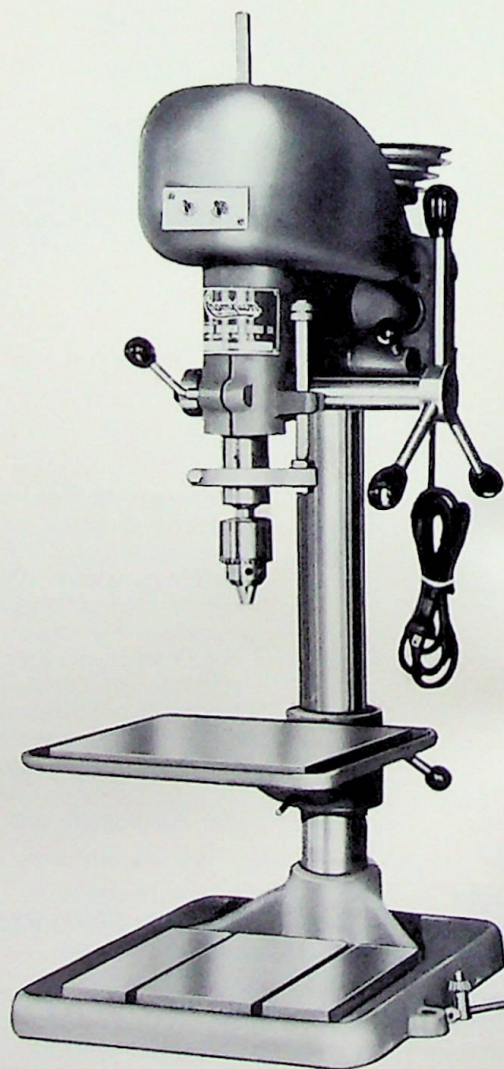
No. 16B Drill

Same as 16F Drill except the following.

Height, 40 inches.
Distance between Chuck and Table, 10 inches.
Distance between Chuck and Base, 16 inches.
Traverse Table on Column, 9 inches.
Weight with Motor, 225 lbs.

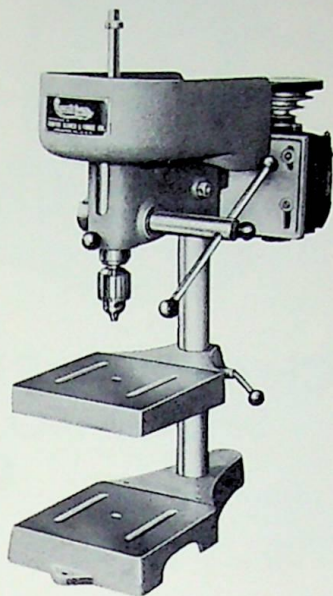


No. 16F Drill



No. 16B Drill

CHAMPION MOTOR DRIVEN BENCH DRILL No. 14B



No. 14B

A high grade 14-inch swing, 4-speed bench drill with ball bearing spindle and driven pulley suitable for drilling $\frac{1}{2}$ " hole in steel or 2" hole in wood. Complete with $\frac{1}{2}$ " capacity key geared chuck. Table equipped with slots for mortising fence. Drill has graduated spindle, spindle locking device and depth stop collar. Table has quick locking handle. Drill head can be swung around column to any position. Entire drill furnished in attractive enamel with red plastic ball on all handles.

Height, 27".
Spindle Speeds, 690, 1300, 2240, 4130.
Table Surface, 8" x 8".
Base Surface, 8" x 8 $\frac{1}{4}$ ".
Spindle Diameter, $\frac{5}{8}$ ".
Spindle Travel, 3".
Column Diameter, 1 $\frac{7}{8}$ ".

Distance between chuck and table, 8".
Distance between chuck and base, 12".
Motor Requirements, $\frac{1}{3}$ H. P., 1750 R. P. M.
Weight, less Motor, 70 lbs.
Weight with Motor, 85 lbs.

CHAMPION DRILL PRESS ACCESSORIES

MORTISING ATTACHMENT for 14B, and 16F Drill Presses

This mortising attachment is very simply installed on the above drill making them adaptable for all kinds of woodworking operations — cabinet making, door and window jointing, etc. A perfect tool for school shops, repair shops, garages, cabinet makers, contractors, small machine shops and home shops. This attachment consists of a yoke for holding the chisel, fence, hold-down fork and hold-in rod assemblies for easy accurate work. Not necessary to change spindles for this operation since the mortising bit is held in the key-geared chuck.

Order: No. 10-M1 Mortising chisel yoke only, weight 1 $\frac{1}{2}$ lbs.
10-M2 Mortising hold-down & fence only, weight 8 lbs.
10-M3 Mortising attachment less chisel & bit weight 10 lbs.

POSITIVE DRIVE TAP ATTACHMENTS For The 14B, 16B, 16F and 2000 Drill Presses

Has floating chuck jaw which assures accurate centering of tap and automatic reverse friction drive. Adjustable drive and floating action prevent tap breakage. No collets to replace. Makes a perfect thread. Furnished with Quill clamp or Morse taper shank for quick change. Capacity is 2-56 to $\frac{1}{2}$ " in soft metal, to $\frac{3}{8}$ " in steel.

Order: No. 10-T-M tapping attachment for No. 33 male spindle, weight 7 lbs.
Order: No. 10-T-3 tapping attachment for No. 3 Morse taper shank, weight 7 lbs.
Taps of all sizes available.

CHAMPION SHAPER ATTACHMENT For 14B, 16B and 16F Drill Presses

This handy attachment converts your Champion Drill Press into a Shaper making

numberless jobs possible. Bits for routing, rounding, ornamenting, plugging, chamfering and many other jobs fit right into the $\frac{1}{2}$ " chuck making spindle changing unnecessary. Standard equipment includes an adjustable fence, adjustable hold-down and hold-in leaf springs and clamps.

Order: No. 10-S shaper attachment, weight 4 $\frac{1}{2}$ lbs.
No. 10-SF shaper fence only, weight 3 lbs.
No. 10-SH shaper hold-down only, weight 1 $\frac{1}{2}$ lbs.

CHAMPION PLYWOOD SHAPER TABLE For 14B, 16B and 16F Drill Presses

To make your woodworking jobs easier this generous 15" x 18" plywood table provides the necessary working area for more accurate shaping and routing. The Shaper table is constructed so that it can be left in place for all operations. Slots and thumb screws provide easy, accurate adjustments. 5-ply table.

Order: No. 10-PT-14 Plywood Shaper Table for 14B Drill Press, weight 4 $\frac{1}{2}$ lbs.
No. 10-PT-16 Plywood Shaper Table for 16B and 16F Drill Presses, weight 4 $\frac{1}{2}$ lbs.

MULTI-SPEED SELECTOR

By use of the motor cone pulley, spindle cone pulley and standard V-belts, this unique attachment can be simply installed. The selector gives maximum pull under spring action so that speeds from 220 RPM's to 3300 RPM's can be chosen in seconds for any type of work. The above speeds are based on use of a 1750 RPM motor. Standard equipment includes column casting, special spring-loaded adjustable pulley, shifting lever, and two V-belts.

Order: No. 10-MS Multi-speed selector, weight 9 lbs.

Other accessories available:

1. Plug cutters for plugs and dowels; $\frac{1}{2}$ " x 2" shank; 2 $\frac{1}{4}$ " barrel. Order by number.

No.	101-P	102-P	103-P	104-P	105-P
Plug Size	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	1"

Order: No. 10-PC Set — Consists of all 5 plug cutters, weight 2 $\frac{1}{2}$ lbs.

2. Sanding drums — with expanding rubber washers and replaceable sleeves—1 $\frac{3}{4}$ " diameter x 2" drum with one sleeve. For $\frac{1}{2}$ " chuck.

Order: No. 10-SD Sanding drum and sleeve, weight 2 lbs.

No. 10-SDS Replacement sleeve only. (available only in lots of 6)

3. Routing attachments. All fit $\frac{1}{2}$ " chuck. Order separate bits or complete set by number.

Bit No.	106-R	107-R	108-R	109-R
Cutting Diameter	$\frac{1}{4}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{3}{4}$ "
Bit No.	110-R	111-R	112-R	113-R
Cutting Diameter	$\frac{1}{2}$ "	$\frac{3}{4}$ "	1"	1 $\frac{1}{4}$ "

Order: No. 10-RA complete set of 8 router bits, weight 1 $\frac{1}{2}$ lbs.

4. Tongue and Groove matched sets: Require cutter adapter which replaces chuck and fits spindle of Champion 14B, 16B and 16F Drill Presses:

Order: No. 10-TGA Cutter adapter complete with nut and washer, weight 9 oz.

Order: No. 10-TG Matched Tongue and Groove Set, less adapter, weight 6 oz.

5. Paint stirring attachment: Fits $\frac{1}{2}$ " chuck. A very clever gadget for thorough and complete paint stirring. Has $\frac{3}{8}$ " shank, 9" long.

Order: No. 10-PSA Paint stirring attachment, weight 2 oz.

CHAMPION ARBOR PRESS NO. 3

The No. 3 Champion Arbor Press is the popular size, for use in factories, machine shops and garages, and is designed to mount on the bench or lathe bed.

The frame is cast iron; the ram and pinion of steel, heat-treated; the hand lever is adjustable for large and small work.

SPECIFICATIONS

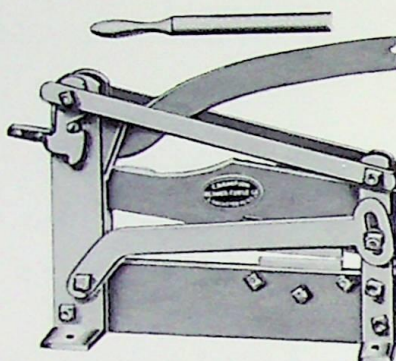
Capacity in tons	3	Size of Ram	1 3/4 inches x 17 inches
Diameter of work	12 inches	Floor Space	8 1/4 inches x 19 inches
Largest Mandrel	1 1/2 inches	Height	23 inches
Size of Table	7 inches	Leverage	45 to 1
Greatest Distance from Table to Ram	11 inches	Weight, 160 lbs. Code — Prant.	

CHAMPION STEEL SHEARS

Champion Shear is made of Steel, there being not a piece of cast iron used in its entire construction. It will stand up without breakage under the work that we claim and fully guarantee for it.

No. 1 Champion Shear; Weight, 255 lbs.; has 6-inch knives, 3/8 inch thick; will cut 4-inch by 1/2-inch flat iron, and 1-inch round or square iron. Weight, 250 lbs. Code — Fikar.

No. 2 Champion Shear; Weight, 260 lbs.; has 12-inch knives, 1/2-inch thick; will cut 4-inch by 1/2-inch flat iron, and 1-inch round or square iron. Weight, 252 lbs. Code — Fikene.

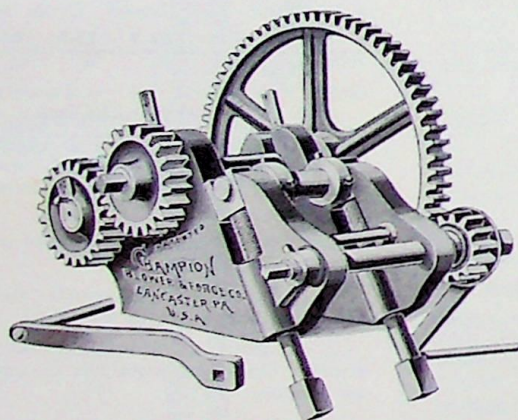
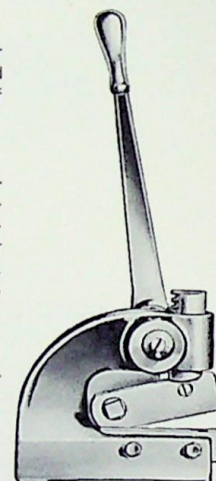


CHAMPION BENCH SHEAR NO. 10

Champion Bench Shear is a stoutly built Hand Shear. The blades are of the best grade steel.

The Handle of convenient length is compounded with a rack and pinion. It is a good light Shear for the workshop, tinsmith, farmer and general repairman.

Will Shear No. 14 gauge.
Cuts round 3/8".
Cuts flats 3/4 x 1/8".
Length of Shears, 4".
Height of Shears, 5 3/4".
Weight, 10 lbs.
Code — Cegata.



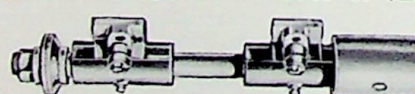
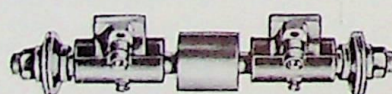
CHAMPION EUREKA TIRE BENDERS

Champion New Patent Eureka Tire Bender is a strong and powerful tool, adjusting screws at each end of the adjusting roll with a graduated indicator on each side of Bender, showing the exact size of the tire being bent. No more trouble to bend imperfect iron into perfect tires; the principle for getting the tire out after being bent is quick and practical. The two end rolls are provided with collars to prevent the tire from twisting so both bends meet when bent. It is double back geared, and worked with two cranks which are furnished with each Bender; has two speeds, one for light and fast work and the second for heavy work.

No. 1 New Style Eureka Bender, Bends 4 x 1-Inch Tire. Weight 195 lbs. Code — Felt.

No. 2 New Style Eureka Bender, Bends 6 x 1-Inch Tire. Weight 275 lbs. Code — Feminine.

CHAMPION BALL BEARING OR RING OILING SAW MANDRELS



Standard Saw Mandrel		Mandrel threaded both ends				Saw Mandrel with V-belt pulley			
Number of Mandrel	Diam. of Pulley	Face of Pulley	Diam. of Flange	Diam. of Shaft	Hole in Saw	Length of Shaft	Net Weight	Code	
000	2	1 5/8	2	1 1/2	1/2	12	7 lbs.	Sopitar	
00	2	2 1/2	2	1 1/2	5/8	12	8 lbs.	Sopited	
0	2	3	2 1/2	1 3/8	3/4	20	14 lbs.	Sopitore	
1	2 1/2	3 1/2	3	1 1/2	1	20	22 lbs.	Sopiunt	
2	3	4	3	1 3/8	1 1/8	23	30 lbs.	Soplar	
3	3 1/2	4 1/2	3 1/2	1 1/2	1 1/4	25	35 lbs.	Sopletes	
4	4	5	4 1/2	1 3/8	1 3/8	28	54 lbs.	Soplonar	
5	4 1/2	5 1/2	4 1/2	1 1/2	1 3/8	30	57 lbs.	Sopolis	
6	5	6	5	1 3/8	1 3/8	32	68 lbs.	Sopar	
6 1/2	5	6	5	1 3/8	1 3/8	48	80 lbs.	Sopad	
7	5 1/2	6 1/2	5 1/2	1 3/8	1 3/8	34	70 lbs.	Soporado	
8	6	7	6	1 3/8	1 1/2	36	90 lbs.	Soporour	
9	7	8	6	1 3/8	1 1/2	41	175 lbs.	Soportar	
10	8	8	6	1 3/8	1 1/2	45	210 lbs.	Soppalor	
11	9	10	6	2 1/4	2	45	290 lbs.	Sopralor	

No. 000 Saw Mandrel made with Solid Cast Iron Bearings.

CHAMPION POWER HACK SAW MACHINE NO. 2

Capacity, 6 Inches x 6 Inches

Champion No. 2 Power Hack Saw Machine combines many improved features, enabling it to saw fast and straight with maximum life to the saw blade.

It has the following important features:

A swivel vise cutting to an angle of 45 degrees with 14 inch saw blade.

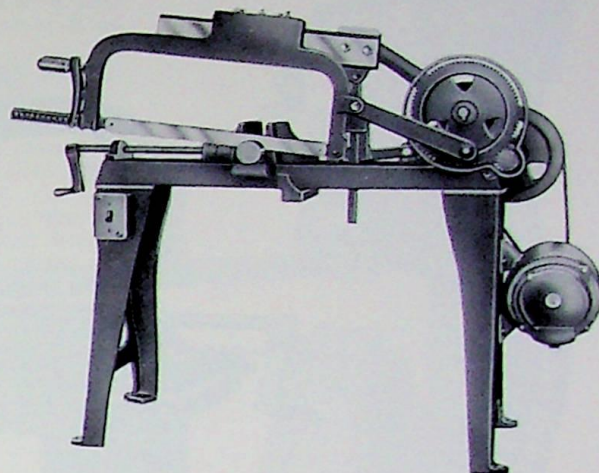
Adjustable gravity feed by means of weight — reducing the breaking or buckling of saw blades to a minimum.

An automatic shut-off which instantly stops the machine when the sawing of material is completed.

A positive clutch — simply constructed — prevents complicated parts from getting out of order.

Driven by accurately cut gears, requiring a V belt and positive drive with less power.

An attachment to automatically lift the saw blade on return stroke and gradually replace the blade in contact with the work on cutting stroke, thereby increasing the cutting life of the blade, and reducing to a minimum the breakage.



No. 2 Motor Driven

DETAILED DIMENSIONS

Length of Blades, 8, 12 or 14 inches.

Stroke of Blade, 6 inches.

Cutting Capacity, 6 inches x 6 inches.

Driving Pulley, 8½ inches diam. x ½ inch V Belt.

Floor Space 36 inches x 18 inches.

No. 2 Hack Saw Machine Belt Driven, weight 245 lbs., **Code** — Benter.

No. 2 Hack Saw Machine with ½ H. P. Motor, 110-220 volts, alternating current and switch. Weight, 225 lbs. **Code** — Benzoe.

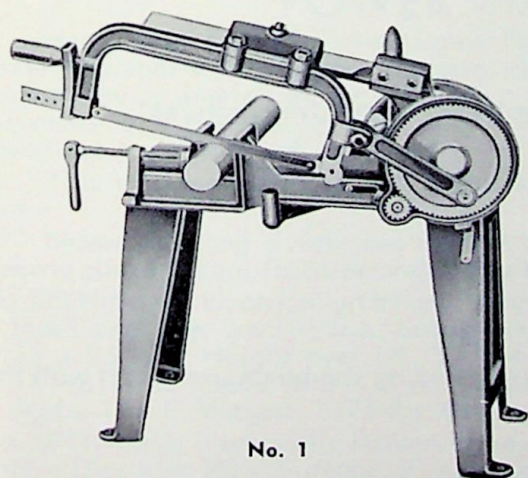
Vise Jaws, 3¾ inches high x 5¼ inches wide x 6 inches opening.

Geared 3 to 1.

Speed of Pulley, 210 R. P. M.

Weight, 300 pounds.

Code — Benter.



No. 1

CHAMPION POWER HACK SAW MACHINE NO. 1

Capacity, 4 Inches x 4 Inches

Champion No. 1 Power Hack Saw Machine is a well-made, rugged, low-priced Hack Saw, for light work in machine shops and garages, also for construction work. Will cut fast and straight.

Equipped with positive clutch, simply constructed, preventing complicated parts getting out of order.

Is equipped with automatic shut-off which instantly stops the machine when the sawing of the material is completed.

Made with adjustable bearings so wear can be taken up when necessary.

DETAILED DIMENSIONS

Length of Blades, 10 inches to 12 inches.

Stroke of Blade 4 inches.

Cutting Capacity, 4 inches x 4 inches.

Drive Pulley, 8½ inches diam. x ½ inch V Belt.

Floor Space required, 24 inches x 10 inches.

No. 1 Hack Saw Machine with ¼ horse power motor, 110 V alt. current, weight 170 lbs.

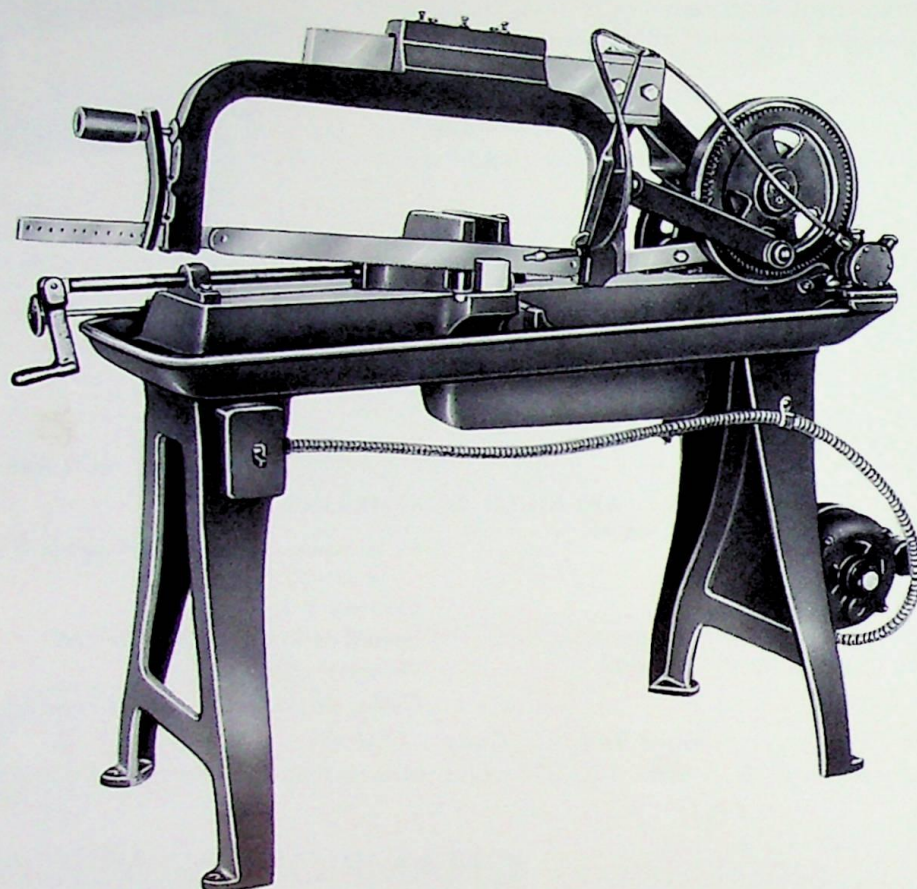
Vise Jaws, 2¾ inches high x 3⅝ inches wide x 4¼ inches opening.

Speed of Pulley, 400 R. P. M.

Geared 5½ to 1. Weight, 140 lbs.

Code — Benton.

CHAMPION POWER HACK SAW MACHINE WET CUT V BELT DRIVE NO. 3



Champion No. 3 Wet Cut V Belt Motor Driven Power Hack Saw Machine with many improved features.

Special features are:

All Gears are machine cut.

Motor pulley of the adjustable type to vary the cutting speed.

Automatic shut off stops machine when sawing is completed on forward stroke.

Gravity feed adjusts various cutting conditions.

Swivel vise cuts to an angle of 45°.

A Position Clutch prevents parts getting out of order.

An eccentric to automatically lift the saw blades on return stroke and gradually replacing the blade in contact with the work in cutting slot.

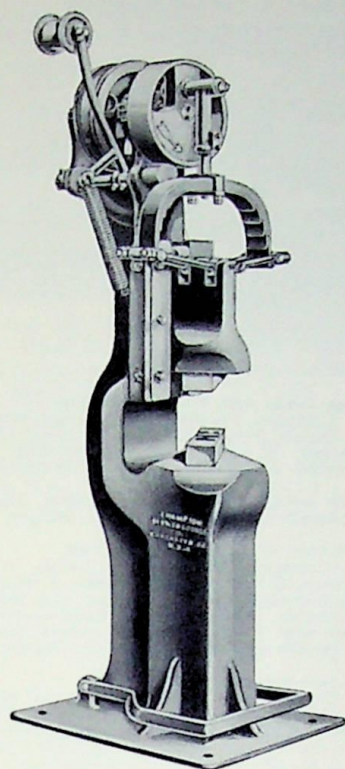
Cooling pump, gear operated, applies cutting compound on the blade.

SPECIFICATIONS

Length of Blade	14, 16 or 18"	Gear Ratio	52 to 1
Stroke of Blade	6"	Speed of Pulley	Adjustable 140 to 220 R. P. M.
Cutting capacity, straight cut	8" x 8"	Floor Space	18" x 36"
Cutting capacity, 45° cut	6" x 6"	Code	Bastine
Driving Pulley	8½" x ½" V Belt	Weight crated	425 lbs.
Vise Jaws	4½" high x 6¼" long		

HERCULES POWER HAMMER

With Flexibility in Stroke of a Hammer in a Mechanic's Hand
Made in Three Sizes



No. 0 and 1

No. 1 Hercules Power Hammer, has dies with plain surface, $2\frac{1}{2} \times 3$ ins.; and two plain and one tapering groove for forging round iron, straight and tapering. Size of base of Hammer, 20×27 ins. Height over all, 5 ft. 8 ins. Weight of ram, 65 lbs. Pulley, $10 \times 2\frac{1}{2}$ ins. Speed, 300 R. P. M. Capacity, $2\frac{1}{2}$ ins.; round or square. Weight, 1355 lbs. **Code** — Figon.

Hercules Power Hammer is made in three sizes: No. 0 with Ram weighing 30 pounds, No. 1 with Ram weighing 65 pounds, and No. 2 with Ram weighing 125 pounds.

The frame and anvil are cast in one solid piece, therefore insures perfect alignment of the dies and a solid anvil, giving rigidity and solidity for the reception of severe and rapid blows.

The position of the dies is such that there is no limit to the length of the bar which can be worked.

They are double-sided Hammers, and can be used as well from one side as the other. They can be placed between two fires, and operated equally as well from either fire.

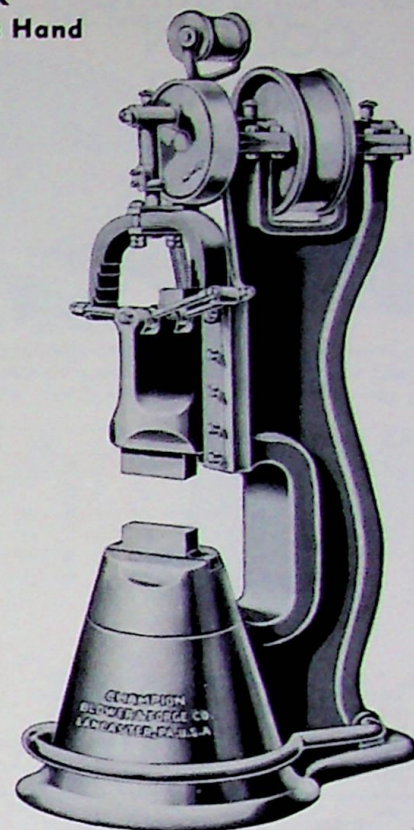
The control of these Hammers is so perfect that the blow can be made at the will of the operator, from a gentle stroke to a rapid succession of mighty blows, and material to its full capacity can be forged down to the size of a horseshoe nail without any change of adjustment.

The friction for stopping the Hammers is such that the operator can strike one blow and stop with the Hammer on the up-stroke.

The Hammer Head and Ram stand out from the main part of the frame, are not covered up to obscure the work of the operator, also in forging iron with an angle in it, you can get in very close to the corner.

The height of the frame is such that a tire three feet in diameter can be welded, and it will weld a tire 4 inches wide and 1 inch thick.

No. 0 Hercules Power Hammer, has upper die, $3 \times 1\frac{1}{2}$ ins.; lower die, 3×2 ins. Size of base of Hammer, 18×25 ins. Height over all, 5 ft. 4 ins. Weight of ram, 30 lbs. Pulley, $9 \times 2\frac{1}{2}$ ins. Speed, 400 R. P. M. Capacity, 2 ins.; square or round. Weight, 1170 lbs. **Code** — Formage.



No. 2

Extra dies for special work will be charged extra. No. 2 Hercules Power Hammer, upper die, size of face, 6×3 ins.; lower die, size of face, 6×3 ins.; size of base of Hammer, $27 \times 46\frac{1}{2}$ ins. Height over all, 7 ft. 3 ins. Weight of ram, 125 lbs. Pulley diameter, 14 ins.; face $6\frac{1}{2}$ ins. Speed, 150 R. P. M. Capacity, 3 ins.; round or square. Weight, 4500 lbs. **Code** — Flexible.

HERCULES ELECTRICALLY DRIVEN POWER HAMMER

Hercules Electrically Driven Power Hammer is identical with the Hercules Power Hammer shown above; the only difference being that this Hammer is operated by an electric motor. The Motor is placed to give a long belt between the motor and the driving pulleys of the Hammer, giving an advantage in power not usually found.

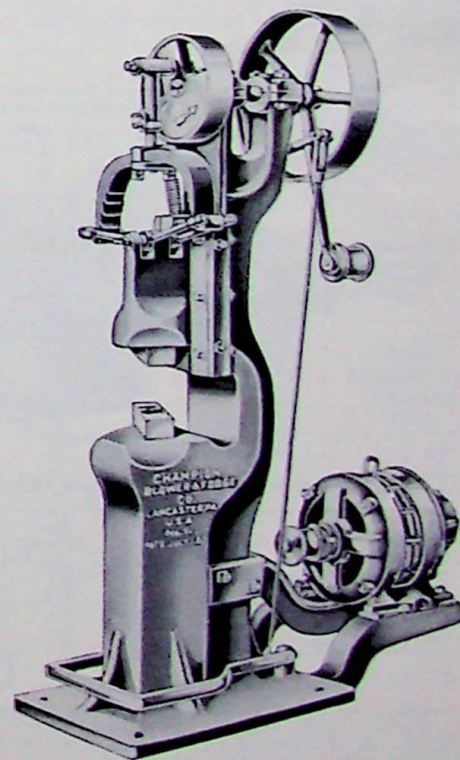
This Hammer is furnished with a switch for starting and stopping the motor.

Before ordering a Hercules Electrically Driven Power Hammer, ask your electric current manufacturer and the full current characteristics.

No. OE Hercules Electrically-Driven Power Hammer, any Current and Voltage. Has Upper Die, $3 \times 1\frac{1}{2}$ Ins.; Lower Die, 3×2 Ins. Size of Base of Hammer, 18×25 Ins. Height over all, 5 Ft. 4 Ins. Weight of Ram, 30lbs. Pulley, $18 \times 2\frac{1}{2}$ Ins. Speed, 400 R. P. M. Capacity, 2 Ins.; Square or Round. Size of Motor 1 H. P. Weight, 1375 lbs. **Code** — Firstree.

No. 1E Hercules Electrically-Driven Power Hammer, any Current and Voltage. Has Dies with Plain Surface, $2\frac{1}{2}$ Ins. \times 3 Ins., and Two Plain and One Tapering Groove for Forging Round Iron, Straight and Tapering. Size of Base of Hammer, 20 Ins. \times 27 Ins. Height over all, 5 ft. 8 Ins. Weight of Ram, 65 lbs. Pulley, $18 \times 2\frac{1}{2}$ Ins. Speed, 300 R. P. M. Capacity, $2\frac{1}{2}$ Ins.; Round or Square. Size of Motor 2 H. P. Weight, 1620 lbs. **Code** — Filtype.

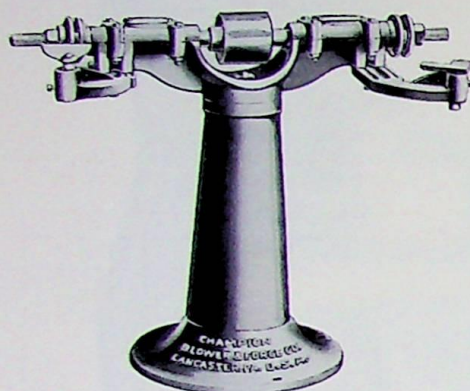
No. 2E Hercules Electric Driven Power Hammer, any Current or Voltage. Upper Die, size of face, 6 Ins. \times 3 Ins.; Lower Die, size of face, 6 Ins. \times 3 Ins. Size of base of Hammer, 27 Ins. \times $46\frac{1}{2}$ Ins. Height overall, 7 Ft. 3 Ins. Weight of Ram, 125 lbs. Pulley diameter 32 Ins., face $6\frac{1}{2}$ Ins. Speed, 150 R. P. M. Capacity, 3 Ins., Round or Square. Size of Motor 5 H. P. Weight, 5000 lbs. **Code** — Flexipede.



No. OE and 1E

NO. 1 CHAMPION COLUMN GRINDER

With Ring Oil Bearings
Made with V in Flat Pulley or Tight
and Loose Pulleys



No. 1 Champion Upright Column Grinder built heavy to meet all conditions of grinding and polishing in the machine shop, foundry, blacksmith shop garage, etc.

The Champion Grinder has special long spindles and bearings. The bearings have unusually large space for the operator and for grinding large and irregular shaped castings.

The bearings are adjustable and babbitted and are provided with ring oilers, giving perfect lubrication.

The Champion Grinder is supplied with rests to stand heavy work and can be easily arranged for the side or face of the wheel.

No. 1 Champion Column Grinder, Capacity, 16 inches x 3 inches; Wheel with 1 1/4 inch Hole; Arbor to Floor, 34 inches; Diameter of Base, 18 inches; Length of Arbor, 40 inches; Diameter of Arbor, 1 3/8 inches; Size of Pulleys, 4 3/4 inches x 4 1/4 inches.

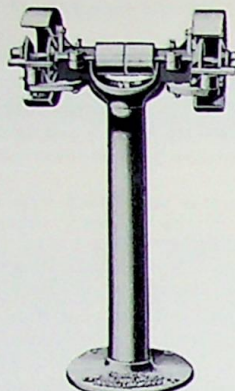
Weight Complete, 255 lbs. Code — Fiest.

Extra for Tight and Loose Pulleys.

Guards for above Grinder for 16-inch Wheel.

Weight 120 lbs.

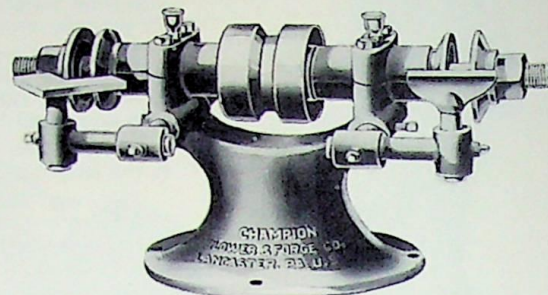
NO. 11 CHAMPION COLUMN GRINDER



No. 11 Champion Upright Column Grinder is a substantial design for garage and general repair work. Bearings are long, well babbitted, fitted with ring oilers and oil reservoir. It is equipped with adjustable rests, which can readily be removed, and guards. The extra long distance between the wheels permits the operator to grind or buff large pieces.

No. 11 Champion Column Grinder, Capacity, 12 x 2 1/2 inches. Wheel with 1-inch Hole; Arbor to Floor, 36 1/2 inches; Diameter of Base, 14 inches. Length of Arbor, 25 inches; Size of Pulleys, 3 3/4 x 3 inches. Weight, 165 lbs. Code — Funk.

NO. 2, NO. O, NO. 3 CHAMPION BENCH GRINDERS



With Ring Oil Bearings Made with V in Flat Pulley

No. 2 Champion Bench Grinder, Capacity, 16 inches x 2 inches; Wheels with 1 1/4 inch Hole; Arbor to Bench, 9 1/2 inches; Size to Base, 13 inches x 9 inches; Length of Arbor, 25 inches; Diameter of Arbor, 1 3/8 inches; Size of Pulley, 4 1/2 inches x 4 inches. Weight 100 lbs. Code — Femaler.

No. 2A Champion Bench Grinder with tight and loose pulleys. Size of Base, 15 inches x 9 inches; Length of Arbor, 29 inches. Weight, 130 lbs. Code — Femaler.

Guards for above Grinders for 16-Inch Wheels. Weight, 50 lbs.

No. O Champion Bench Grinder, Capacity, 12 inches x 2 inches; Wheel with 1-inch Hole; Arbor to Bench, 8 inches; Size of Base, 9 inches x 6 inches; Length of Arbor, 18 inches; Diameter of Arbor, 1 1/8 inches; Size of Pulleys, 4 inches x 3 inches. Weight, 50 lbs. Code — Fiesur.

No. OA Champion Bench Grinder with Tight and Loose pulleys. Size of Base, 13 inches x 6 inches; Length of Arbor, 21 inches. Weight, 65 lbs. Code — Fiesuste.

Guards for either Grinder for 12-inch Wheels. Weight, 40 lbs.

No. 3 Champion Bench Grinder, Capacity 10 inches x 1 1/2 inches; Wheel with 3/4 inch Hole; Arbor to Bench, 6 3/4 inches; Size of Base, 10 1/2 inches x 6 inches; Size of Pulleys, 3 inches x 2 inches; Length of Arbor, 15 inches; Diameter of Arbor, 7/8 inch. Weight, 30 lbs. Code — Felsinam.

No. 3A Champion Bench Grinder with Tight and Loose Pulleys. Length of Arbor, 16 inches. Weight, 35 lbs. Code — Felsinamte.

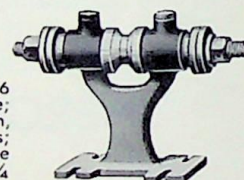
Guards for either Grinder or Wheels. Weight, 30 lbs.

NO. 4 CHAMPION BENCH GRINDER

Made with Special V Pulley

No. 4 Champion Bench Grinder, Capacity, 6 inches x 1-inch; Wheels with 5/8 inch Hole; Length of Arbor, 12 inches; Arbor to Bench, 5 1/4 inches; Size of Base, 7 inches x 3 1/2 inches; Size of Pulley, 2 inches x 1 3/8 inches. Can be furnished with V-pulley. Diameter of Arbor, 3/4 inch. Weight, 20 lbs. Code — Feesley.

No. 4A Champion Bench Grinder with Tight and loose Pulley. Weight, 22 lbs. Code — Feeslet.



CHAMPION SWIVEL BASE VISES

Champion Vises are well made, having a cold rolled steel draw bar; removable hardened steel jaws, knurled and ground to fit. Handle and screw are forged steel. The thread on the screw is acme thread machine cut.

Top of Jaws and Anvil Face, as well as all steel parts, are highly polished.

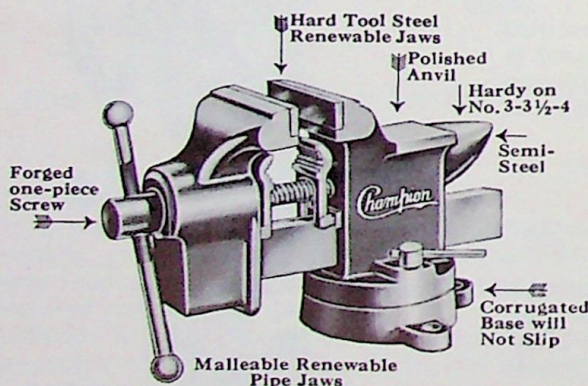
The Body and Base are painted red — attractively finished, and are real values for light work in Machine Shops, Pattern and Model Shops, Electrical and Radio Shops, Garages, and for the Home Workshop.

Swivel base holds fast in any position the same as all higher priced Vises. They can be used as stationary vises, if so desired.

Have removable pipe jaws holding 1 1/4 inch pipe.

Packed in strong individual fibre cartons.

No. 3-3 1/2-4 Vises furnished with Hardie.



Heavy Weight with Removable Pipe Jaws
No. 3-3 1/2-4-5-6

No.	Vise	Width of Jaw	Jaw Opening	Height	Diam. Handle Head	Diam. Forged Screw	Size Steel Draw-Bar	Size Hardie	Size Anvil Overall	Size Base Lock Screw	Wt. Lbs.	Std. Pkg.	Code
3	Radio and Home	3"	3"	6 1/4"	1 1/8"	5/8"	1 1/4 x 5/8"	3/4"	5 5/8 x 1 7/8"	5/8"	16	12	Cepace
3 1/2	Radio and Home	3 1/2"	3 1/2"	6 5/8"	1 1/8"	5/8"	1 1/4 x 3/4"	3/4"	4 x 2 1/4"	5/8"	21	12	Cepam
4	Home and Garage	4"	4"	7 3/8"	1 1/8"	5/8"	1 1/2 x 3/4"	3/4"	4 1/2 x 2 3/8"	5/8"	30	12	Cepina
5	Garage and Shop	5"	5"	8 3/8"	1 5/8"	3/4"	1 3/4 x 1"	none	5 x 3"	3/4"	62	1	Cepinis
6	Garage and Shop	6"	6"	10 1/8"	2"	1"	2 x 2"	none	6 1/2 x 4 3/4"	3/4"	110	1	Ceppe

CHAMPION DRILLING VISE

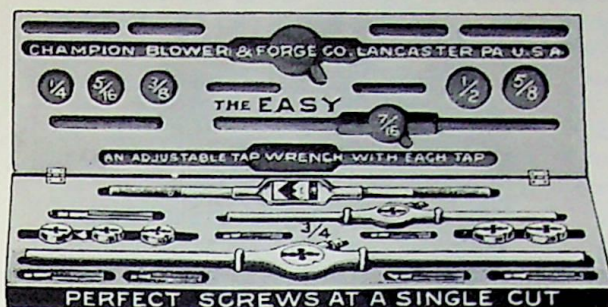
Champion No. 5 Drilling Vise can be bolted to the Drill Press Table; and is as rigid as any Vise attached to a Bench, thereby enabling the operator to drill holes in intricate pieces and pieces that cannot be held except in a Vise. With the use of a Drilling Vise more work can be done with ease and less breakage of drill-bits. This Vise is used just as efficiently where holes are to be tapped.

Vise Jaws are 5 inches wide, 2 inches high faced with hardened steel. The stationary Jaw has V-slots. The loose Jaw swivels to take Morse Taper and opens 6 inches.

Body of Vise made of gray iron, accurately machined. The Screw is special steel, with lathe-turned threads. No. 5 Champion Swivel Jaw Drilling Vise with 5-inch Jaw opening 6 inches. Weight 25 lbs. Code — Cefiro.



CHAMPION EASY SCREW PLATES — With U. S. Std. Dies and Taps



CHAMPION EASY SCREW PLATE DIE

For simplicity in construction, compactness and neatness in design, with every improvement in a Screw Plate which makes a perfect Screw at a Single Cut, the "Easy" ranks among the highest; the Die being adjustable by the use of a Taper-Head Screw with a Taper Nut.

Nos. 2B, 5B, 5½B, 7B and 9B Easy Sets are Furnished with TWO STOCKS. Every Set is Packed in a Hardwood Case and Furnished with an Adjustable Tap Wrench.

Set Number	1B	1½B	2B	5B	5½B	7B	9B	60	62	63	64	65
One Each	¼-20	¼-20	¼-20	¼-20	¼-20	¼-20	¼-20	½-13	¾-9	¼-20	¼-20	1½-7
Tap, Die and	¾-18	¾-18	¾-16	¾-18	¾-18	¾-18	¾-18	¾-11	1-8	¾-18	¾-18	1¼-7
Guide for	¾-16	¾-16	½-13	¾-16	¾-16	¾-16	¾-16	¾-10	1½-8	¾-16	¾-16	1¾-6
Each Size	¾-14	½-13	¾-11	¾-14	¾-14	¾-14	¾-14	¾-9	1¼-7	¾-14	¾-14	1½-6
	½-13	¾-11	¾-10	½-13	¾-12	½-13	½-13	1-8	1¾-6	½-13	½-13	
				¾-11	¾-11	¾-11	¾-12	1½-7	1½-6	¾-11	¾-11	
				¾-10	¾-10	¾-10	¾-11			¾-10	¾-10	
						¾-9	¾-10			¾-9	¾-9	
						1-8	¾-9			1-8	1-8	
							1-8			1½-7	1½-7	
										1¼-7	1¼-7	
										1¾-6	1¾-6	
										1½-6	1½-6	
Diam. Dies	1½"	1½"	1½-1¾"	1½-1¾"	1½-1¾"	1½-1¾"	1½-1¾"	1½-3¼"	3¼"	1½-3¼"	1½-3¼"	3¼"
Length Stock	15½"	15½"	15½-23"	15½-23"	15½-23"	15½-26"	15½-26"	29-40	53			53
Tap Wrench	No. 2	No. 2	No. 3	No. 3	No. 3	No. 4	No. 4	No. 5	No. 5	No. 2-5	No. 2-5	No. 5
Weight, Lbs.	7½	7½	14	14	15	18	20	35	50	53	58	45
Price	\$26.00	\$32.00	\$35.00	\$40.00	\$46.00	\$63.00	\$75.00	\$108.00	\$143.00	\$138.00	\$180.00	\$118.00

Set Number	11	12	15	15½	17	19
One Each	NC	NF	NC	NF	NC	NF
Tap, Die and	¼-20	¼-28	¼-20	¼-28	¼-20	¼-28
Guide for	¾-18	¾-24	¾-16	¾-24	¾-18	¾-24
Each Size	¾-16	¾-24	½-13	½-20	¾-16	¾-24
	¾-14	¾-20	¾-14	¾-20	¾-14	¾-20
	½-13	½-20	½-13	½-20	½-13	½-20
			¾-11	¾-18	¾-11	¾-18
			¾-10	¾-16	¾-10	¾-16
					1-8	1-14
Diam. Dies	1½"	1½-1¾"	1½-1¾"	1½-1¾"	1½-1¾"	1½-1¾"
Length Stock	15½"	15½-23"	15½-23"	15½-23"	15½-26"	15½-26"
Tap Wrench	No. 2 No. 3	No. 3	No. 3	No. 3	No. 4	No. 4
Weight, Lbs.	17	18	19	22	23	24
Price	\$42.00	\$55.00	\$66.00	\$72.00	\$105.00	\$110.00

CHAMPION EASY SCREW PLATES Can be Furnished With S.A.E. Dies and Taps

CHAMPION EASY COMBINATION SCREW PLATES

With Both U. S. Standard and S. A. E. Taps and Dies



No. 15½

Sizes	U. S. S.	V and Whitworth	S. A. E.	Taps	Easy, Electric and Ordinance Dies
¾	24	24	—	\$0.60	\$ 1.65
¼	20	20	28	.60	1.65
¾	18	18	24	.66	1.65
¾	16	16	24	.72	1.90
¾	14	14	20	.80	2.14
½	13	12	20	.92	2.50
¾	12	12	18	1.05	2.90
¾	11	11	18	1.18	3.15
¾	11	11	16	1.40	3.50
¾	10	10	16	1.55	3.90
¾	10	10	—	1.80	4.30
¾	9	9	14	2.15	5.00
¾	9	9	—	2.30	5.70
1	8	8	14	2.64	6.20
1½	7	7	12	2.98	7.30
1¼	7	7	12	3.45	8.30
1¾	6	6	12	3.96	9.50
1½	6	6	12	4.62	11.50

CHAMPION ADJUSTABLE STOCK AND DIE SETS



No. 1001B Set. 5 sizes. $1\frac{1}{2}$ " diam. dies, cutting $\frac{1}{4}_{20}$, $\frac{5}{16}_{18}$, $\frac{3}{8}_{16}$, $\frac{7}{16}_{14}$, $\frac{1}{2}_{13}$. U. S. Standard Thread. One Stock, 14" long. All mounted on Board. **Code** — Cellule _____ \$13.00

No. 1001A Set. 5 sizes. 1½" diam. dies, cutting ¼₂₈, ⅜₂₄, ½₂₄, ⅝₂₀, ¾₂₀. S. A. E. Thread. One Stock, 14" long. All mounted on Board. **Code** — Celcoe _____ \$13.00

CHAMPION ROUND ADJUSTABLE SPRING DIES



Champion Round Adjustable Spring Die is split on one side and spring tempered on the other side to allow adjustment of the die which is done by a fine pitch screw of the split side, which separates the die, or allows them to spring together. Liberal chip space is provided in the clearance holes.

U. S. Standard Thread furnished unless otherwise ordered. Left Hand Dies, sizes, dimensions not listed, and special threads are subject to special prices.

	1 1/16" dia. 1/4" thick	1" dia. 3/8" thick	1 1/2" dia. 1/2" thick	2" dia. 5/8" thick	2 1/2" dia. 3/4" thick	3" dia. 1" thick		1 3/16" dia. 1/4" thick	1" dia. 3/8" thick	1 1/2" dia. 1/2" thick	2" dia. 5/8" thick	2 1/2" dia. 3/4" thick	3" dia. 1" thick
Machine Screw Sizes	\$1.50	\$1.50					9/16			\$2.50	\$4.50	\$6.50	
1/16	1.50						5/8			2.50	4.50	6.50	
3/32	1.30						11/16				4.50	6.50	
1/8	1.30	1.60					3/4				4.50	6.50	
5/32	1.30	1.60					13/16				4.50	6.50	
3/16	1.30	1.60					7/8				4.50	6.50	
7/32	1.30	1.60					15/16				4.50	6.50	
1/4	1.30	1.60					1					6.50	\$13.00
5/16	1.30	1.60	\$2.50	\$4.50			1 1/8						13.00
3/8		1.60	2.50	4.50			1 1/4						13.00
7/16		1.60	2.50	4.50			1 3/8						13.00
1/2			2.50	4.50	\$6.50		1 1/2						13.00

STOCKS FOR CHAMPION ROUND ADJUSTABLE SPRING DIES

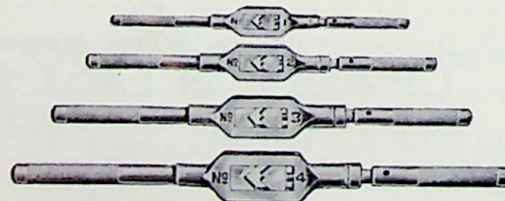
Stocks for Champion Round Adjustable Spring Dies are constructed of malleable, machined and polished with knurled handles to give a firm grip. Set Screw enters the countersink in the die, holding it solid.



Diam. of Dies, Inches	Length, Inches	Price	Diam. of Dies, Inches	Length, Inches	Price	Diam. of Dies, Inches	Length, Inches	Price
$1\frac{1}{16}$	$6\frac{5}{8}$	\$2.25	$1\frac{1}{2}$	14	\$4.80	$2\frac{1}{2}$	26	\$ 8.00
1	9	3.00	2	18	5.80	3	53	13.00

CHAMPION ADJUSTABLE TAP WRENCH

The Champion Adjustable Tap Wrenches are light, strong and durable. The jaws are made of the highest grade tool steel, which centralizes the Tap in the holder, are finished, the handles are knurled. These Tap wrenches are made in eight sizes.



No. 1, $\frac{1}{8}$ in. to $\frac{1}{4}$ in. Length, 7 inches. **Code** — Federfasa\$3.25
No. 2, $\frac{3}{8}$ in. to $\frac{5}{8}$ in. Length, 10½ inches. **Code** — Feculences 5.50
No. 3, $\frac{1}{4}$ in. to $\frac{3}{4}$ in. Length, 15 inches. **Code** — Fecundates 6.00
No. 4, $\frac{1}{4}$ in. to 1½ in. Length, 20 inches. **Code** — Filibustus 7.70

No. 5, ½ in. to 1¾ in. Length, 26 inches.	Code — Filigrees ..	\$12.25
No. 6, ¾ in. to 1⅝ in. Length 34 inches.	Code — Fillipeens ..	17.50
No. 7, 1 in. to 2 in. Length, 40 inches.	Code — Fillone ..	26.00
No. 8, 1¼ in. to 2½ in. Length, 54 inches.	Code — Filleran ..	33.00

CHAMPION PUMPMAKERS' STOCKS AND DIES



The Champion Triple Pumpmakers' Stock, with three dies complete. Cutting $\frac{3}{8}$ 16, $\frac{1}{4}$ 14, $\frac{1}{2}$ 213 ----- \$12.50

$\frac{3}{8}$ Die and Stock, complete	\$ 6.50
$\frac{1}{6}$ Die and Stock, complete	6.50
$\frac{1}{2}$ Die and Stock, complete	6.50

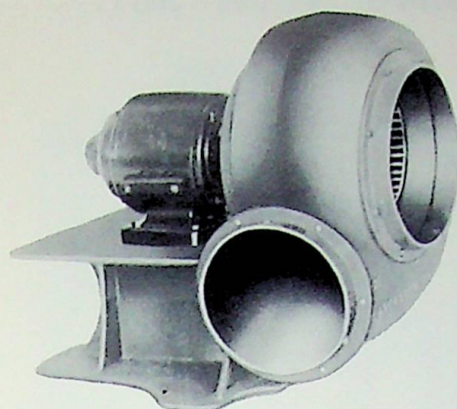


The Champion Double Pumpmakers' Stock, with two dies complete. Cutting $\frac{3}{8}$ 10, $\frac{1}{4}$ 14 \$8.50

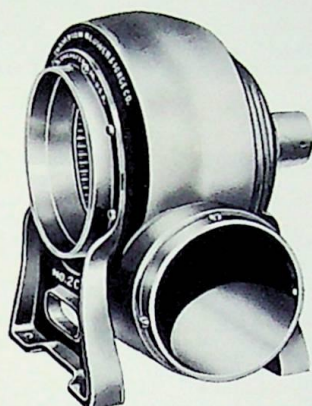


All Pump Dies will be sent U. S. Standard thread unless otherwise ordered.

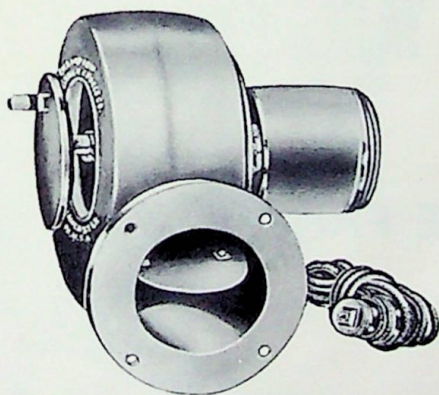
CHAMPION TYPE CE CAST IRON UTILITY FANS



TYPE CE FAN MOTOR DRIVEN



TYPE C FAN BELT DRIVEN



Champion Type C Belt Driven Fans and Type CE Direct Motor Driven Fans are made of cast iron with steel forward curve blast wheel. These Fans are designed for general blast producing work and for all types of ventilation and exhaust work. With either a blast wheel of acid resisting metal or of steel coated with acid resisting coating, they are especially adapted to laboratory fume hood work. This type of fan is also used for forced draft work in boilers from 5 square feet of grate area to 60 square feet area and can be provided with an adjustable inlet damper.

Fan No.	R.P.M.	H.P.	Free Delivery	Static Pressure			Height	Weight Pounds Type CE	Weight Pounds Type C
				1/4"	1/2"	3/4"			
00-CE	3000	1/50	60	45	—	—	7 1/4"	25	20
0-CE	1725	1/20	160	125	—	—	10"	45	40
*1-CE	1140	1/20	370	276	—	—	13"	75	70
*1-CE	1725	1/6	535	460	385	295	13"	60	70
*1 1/4-CE	1140	1/6	750	565	400	—	17"	110	100
*1 1/4-CE	1725	1/3	1100	1020	910	800	17"	130	86
1 1/2-CE	860	1/6	1025	880	—	—	20 1/2"	160	150
1 1/2-CE	1140	1/3	1300	1150	960	750	20 1/2"	160	150
1 1/2-CE	1725	1	1900	1780	1670	1565	20 1/2"	195	150
1 3/4-CE	860	1/4	1600	1350	1150	—	24"	170	200
1 3/4-CE	1140	1/2	2100	1900	1700	1510	24"	250	200
2-CE	690	1/2	1900	1600	1200	—	28"	315	300
2-CE	860	1/2	2450	2000	1790	1360	28"	315	300
2-CE	1140	1	3300	3100	2700	2500	28"	325	250
2 1/2-CE	690	3/4	4000	3300	3100	2490	30"	460	400
2 1/2-CE	860	1 1/2	5200	4400	4250	3750	30"	460	400
3-CE	690	3	6800	6450	6100	5400	33 1/2"	540	500

No. of Fan	Weight Pounds	Height in Inches	Diameter of Blast Wheel	Outside Diameter of Inlet	Outside Diameter of Outlet	Diameter of Pulley	Face of Pulley
00-C	20	7 1/4"	3"	3 1/8"	2 1/4"	1 1/8"	1 1/8"
0-C	40	10 3/8"	4 1/2"	4 1/8"	3 1/8"	2 1/4"	1 1/8"
1-C	50	12 5/8"	6"	6"	6"	2 1/4"	1 1/4"
1 1/4-C	100	15 7/8"	7 1/2"	7 1/2"	7 1/2"	3 1/2"	2 1/4"
1 1/2-C	110	17 1/8"	9"	9"	9"	4"	2 1/4"
1 3/4-C	200	20 3/4"	10 1/2"	10 1/2"	10 1/2"	4 1/2"	3"
2-C	300	24 1/8"	12"	12 1/2"	12"	5"	3 1/4"
2 1/2-C	400	29 1/4"	15"	15 1/4"	15"	6"	3 1/2"
3-C	450	33 3/4"	18"	18 1/2"	18"	8"	3 3/4"

CHAMPION FORCED DRAFT COAL BLOWERS

CHAMPION BLOWERS FOR FORCED DRAFT in homes, apartments, churches, schools, hotels, hospitals, will save 40% in fuel costs — is supplied — using Buckwheat coal about 50% is saved. Quiet in operation without radio interference of any kind.

HEAT WHEN DESIRED

MORE UNIFORM HEAT than is possible with natural draft. In using a Champion Blower the draft is furnished to the fuel when heat is required, and this forced draft means instant mechanical heat instead of waiting for heat when depending on natural draft.

Damper on inlet is adjustable to provide correct amount of air needed for proper combustion of all the heat elements in the coal. Check valve in the outlet of blower closes immediately the blower stops, thereby prevents natural draft continuing thru the blower.

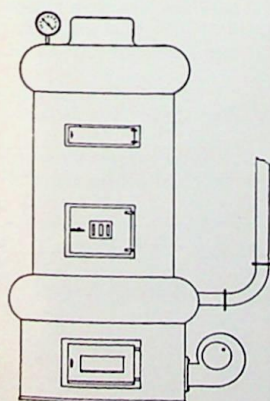
CHAMPION FORCED DRAFT BLOWER USED AS UTILITY EXHAUSTS. These blowers can be furnished with an inlet collar for use as straight exhausters where small exhaust fans are needed, such as toilet exhaust, fume hood exhaust or small hoods.

TO DETERMINE SIZE BLOWER TO USE

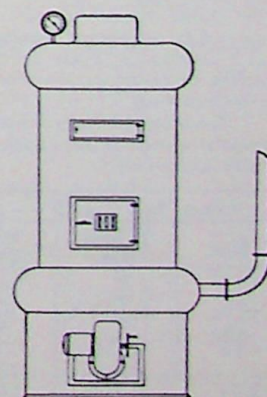
Figure the number of square feet of grate surface of the furnace, then use the size blower which has the capacity of the square feet grate area as indicated in the capacity table below. Place blower close to ash pit and discharge air under the grates.

No. Blower	R.P.M.	H.P.	Sq. Ft. Grate Area	Cu. Ft. Per Min. Free Air	Outlet	Height	Weight Lbs.
30	3000	1/40	Up to 3	60	1 7/8"	7 1/4"	12
31	1750	1/20	3 to 5	160	3 3/8"	10"	22

FURNISHED WITH AC 110 VOLT MOTOR ONLY

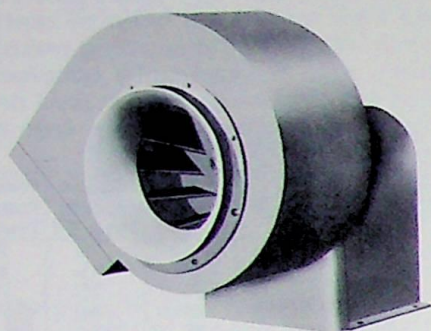


No. 30 and No. 31, attached to side of furnace or boiler.

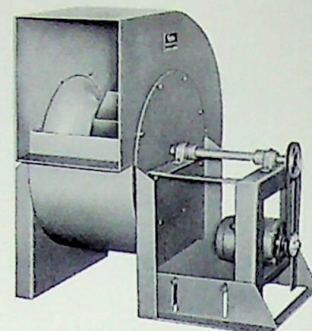


No. 30 and No. 31, attached to ash-pit door.

CHAMPION COMPACT NON-OVERLOADING VENT SET. TYPE D



Weatherproof Cover



Without Weatherproof Cover

FEATURES

PACKAGE UNIT. Comes ready to run by bolting to foundation and connecting to duct work.

NON-OVERLOADING. Will operate over the complete range of capacities specified on table without overloading the Motor.

WEATHER-PROOF. Furnished with weather-proof cover over the bearing drive and Motor and can be furnished with automatic louvers at discharge so that unit can be mounted on roof without building a pent house.

BEARINGS. Bronze Graphite type will give long life with infrequent oiling — large oil reservoirs provided.

ADJUSTABLE DISCHARGE. Can be changed to any angle of discharge desired by removing several bolts.

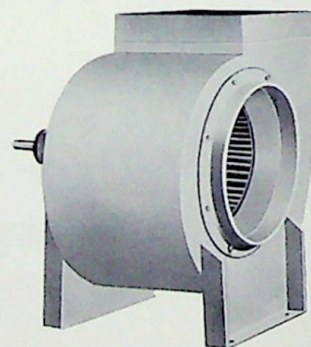
ADJUSTABLE PULLEYS. For varying speed range as shown under each horsepower rating on capacity table. Standard non-adjustable pulleys also furnished for any individual speed shown on capacity tables.

QUIET IN OPERATION. Fans designed for low velocities and quiet operation through use of capacity ranges shown on performance table. Fan for use in all types of ventilating conditions — Wheels will not clog with grease in kitchen use and require only infrequent cleaning. Non-overloading characteristics eliminate the use of dampers or shields to adjust the system to prevent overloading of the Motor and therefore can be selected to cover a wide range of performance where static pressures are uncertain.

Size	H.P.	Fan Speed Range	Capacity Range	Approx. Wt.	Size	H.P.	Fan Speed Range	Capacity Range	Approx. Wt.
1 3/4-D	1/4	1750-2433	745-1260	120	4-D	1/2	566-660	4138- 5340	550
2-D	1/4	1150-1350	1112-1366	132	4-D	1	675-804	5501- 6581	570
2-D	1/4	1400-1600	1410-1630	136	4-D	1 1/2	825-900	6870- 7571	600
2 1/2-D	1/3	928-1134	1660-2101	190	4 1/2-D	3/4	516-605	5466- 6535	760
2 1/2-D	1/2	1210-1425	2270-2668	220	4 1/2-D	1	631-700	6942- 7750	780
3-D	1/2	809- 997	2635-3365	300	4 1/2-D	1 1/2	720-785	7998- 8801	800
3-D	3/4	1049-1170	3501-3970	320	5-D	1	464-568	6675- 8235	950
3 1/2-D	1/2	672- 775	3948-4773	350	5-D	1 1/2	585-659	8735- 9783	975
3 1/2-D	1	827- 950	5067-5912	380	5-D	2	670-711	10061-10791	1010



CHAMPION FORWARD CURVE FANS TYPE S



Champion Type S Forward Curve Fans are generally designed for ventilation in locations requiring very quiet operation. The Fans are slow speed and quiet operating and develop a positive pressure for long duct runs. All fans are of welded steel construction turned steel shafts and equipped with quiet operating ball bearings. Fan sizes 1-5 are furnished adjustable to eight different angles of discharge, above these sizes they must be ordered to whatever discharge is required.

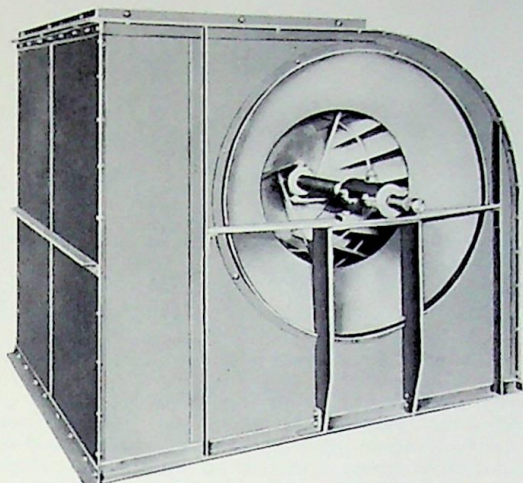
Champion Type S Fans are built in sizes from 6" wheel dia. to 60" dia. in all standard fan arrangements from No. 1 to No. 9. Also all classes of construction from I to IV can be obtained as required for the service to which the fan is to be put. They can be used either for blowing or exhausting.

Champion Type S Fans are equipped with a forward curve Type of Fan Wheel of the most efficient type and of sufficient strength to withstand the maximum capacities shown on the tables. Sizes 4 to 10 Wheels are rigidly braced with radial brace rods and are statically and dynamically balanced.

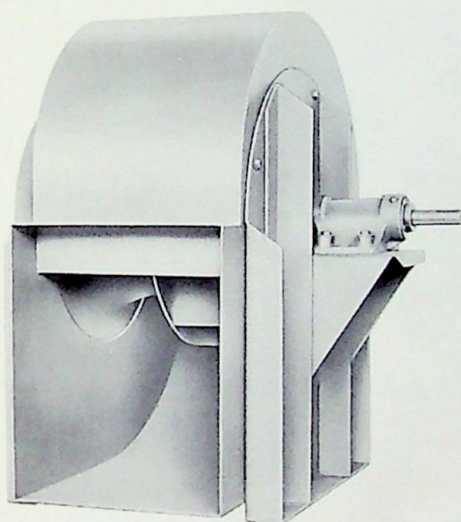
Arr. No. 2 or 3 — Belt Drive				Arr. No. 2 or 3 — Belt Drive				Arr. No. 2 or 3 — Belt Drive			
Size	Wheel Dia.	WT SW	WT DW	Size	Wheel Dia.	WT SW	WT DW	Size	Wheel Dia.	WT SW	WT DW
1	6	60		3	18	300	400	6	36	1200	1800
1 1/4	7 1/2	80		3 1/2	21	440	500	6 1/2	39	1300	2000
1 1/2	9	95		4	24	500	620	7	42	1400	2200
1 3/4	10 1/2	110		4 1/2	27	650	800	8	48	1800	2800
2	12	135	200	5	30	750	1050	9	54	2400	3500
2 1/2	15	180	300	5 1/2	33	990	1400	10	60	2850	4200

Capacity tables furnished upon application.

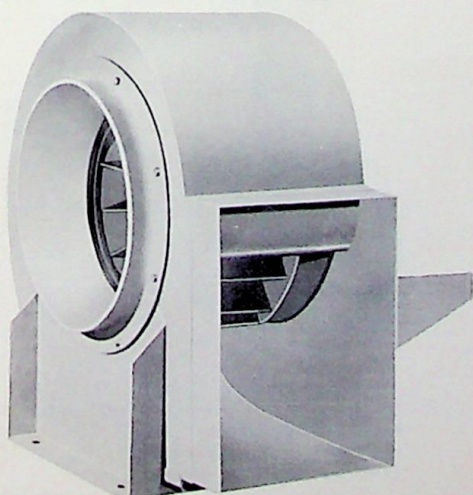
CHAMPION TYPE BC NON-OVERLOADING FAN



Arr. No. 3 — SIZES 5-10



Arr. No. 2 — SIZES 2-6



Arr. No. 4 — SIZES 2-4

Champion Type BC Non-overloading backward curved fans incorporate the latest design in this type of fan. The non-overloading feature prevents overloading the motor under any static pressure conditions at a given speed. These fans are suitable for any type of ventilation or exhausting work handling air, fumes, smoke or fine dust.

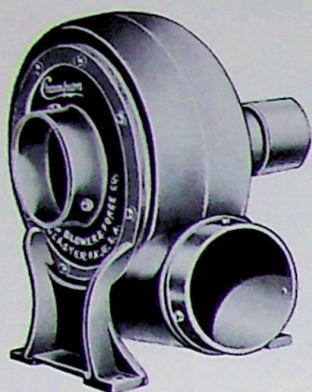
Champion Type BC Fans are built in wheel sizes from 12" to 60" dia. as shown on the table below. Sizes 2-5 are adjustable to eight different angles of discharge. Above these sizes the discharge must be specified on order. These Fans can be furnished in arrangements 1 to 8 and in class I to IV construction as required for the service.

Champion Type BC Fans are equipped with high efficiency wheels of extra heavy construction well braced for high speeds. Fan housings are of all welded construction. Shafts are made of turned steel. Bearings regularly furnished are quiet operating ball type. All Fans are statically and dynamically balanced.

Arr. 2 or 3 Belt Drive				Arr. 4 with Motor			
Size	Wheel dia.	WT. SWSI	WT. DWDI	Size	H.P.	R.P.M.	Weight
2	12	155	200	2	1/6	1140	200
2½	15	220	300	2	½	1750	220
3	19	300	400	2½	1/6	860	275
3½	22½	440	500	2½	½	1140	300
4	24½	500	620	2½	1	1750	320
4½	27	650	800	3	½	860	340
5	30	750	1050	3	1	1140	360
5½	33	990	1400	3	3	1750	370
6	36½	1200	1800	3½	½	690	400
6½	40½	1300	2000	3½	¾	860	410
7	44½	1400	2200	3½	2	1140	440
8	49	1800	2800	4	¾	690	470
9	54½	2400	3500	4	1½	860	500
10	60	2850	4200				

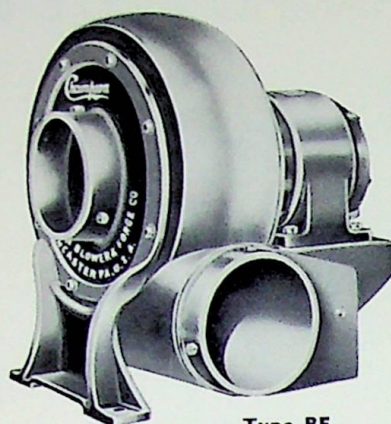
Capacity tables furnished upon application.

CHAMPION TYPE B UNIVERSAL FANS



Type B

No. of Fan	Weight Pounds	Height in Inches	Diameter of Blast Wheel	Outside Diameter of Inlet	Outside Diameter of Outlet	Diameter of Pulley	Face of Pulley
1B	70	14 1/4	9 3/8	5	5	3	2 1/2
2B	120	16 1/2	11	6	6	4	3
3B	170	20 1/4	13	7	7	4	3 1/2
4B	205	24 1/2	14 1/2	8	8	5 3/4	3 3/8
5B	350	27 1/2	16 1/2	9	9	5 3/4	3 3/8
6B	400	31	19 1/2	10	10	5 3/4	3 3/8
7B	500	37	23	12	12	7 1/2	6 1/2
8B	880	48	28	16	16	7 1/2	6 1/2



Type BE

No. of Fan	R.P.M.	H.P.
1BE	1,750	1/4
1BE	3,450	1/3
2BE	1,750	2
2BE	3,450	1/2
3BE	1,140	5
3BE	1,750	1 1/2
3BE	3,450	1 1/2
4BE	1,140	1 1/2
4BE	1,750	2 1/2
4BE	3,450	3 1/2
5BE	870	1
5BE	1,140	1 1/2
5BE	1,750	2 1/2
6BE	870	3/4
6BE	1,140	1
6BE	1,750	5
7BE	870	2
7BE	1,140	5
7BE	1,750	10
8BE	490	2
8BE	870	5
8BE	1,140	7 1/2

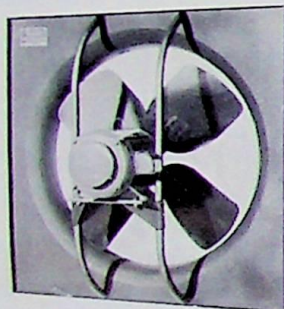
Champion Ball-Bearing Universal Fans can be used as an Exhaust Fan or a Blower. The Housing is a one-piece and can be swung around to give eight different discharge directions to the outlet and, if desired, pulley placed on the opposite side.

These Fans meet every condition required of a blower for forced draft — on steam boilers, furnaces, dry rooms, refrigeration, forges, drying various materials, furnishing air for underground passages such as sewers, laying underground wires; blowing gas ovens, etc. — and they are equally as efficient for exhausting purposes where foul air, smoke, gases, heat, etc., are to be removed in mines, steamers, underground apartments, theatres, public halls; vapor and steam from paper machines; for handling dust and dirt from emery and buffing wheels; removing dust and burrs in cotton gins; saw dust and refuse from saw and mill machinery.

Can be furnished complete with motor, or less motor, ready to attach any make of motor, if so desired.

CHAMPION SUPER VENTILATING FANS

Very Quiet in Operation

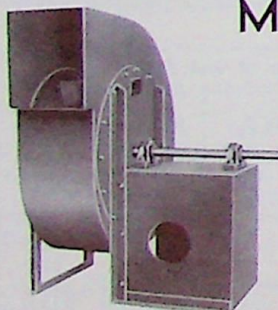


Wherever ventilation is needed, either to exhaust foul air or bring in fresh air, in restaurants, hotels, theatres, garages, paint shops, battery service stations, billiard halls, bowling alleys, stores, offices, laundries, creameries, bake shops, industrial plants, homes or for boosting circulation of air in furnace pipes, this is the fan to use.

MOTOR is enclosed type, eliminating danger when used in Paint Shops, or where steam, gases, or dust are carried.

Fan Wheel Sizes	Revolutions Per Minute	Motor H. P.	Cubic Feet Per Minute	Weight
12"	1150	1/12	1000	30
16"	1150	1/8	1720	55
18"	1725	3/4	4000	90
18"	1150	1/4	2650	78
24"	1150	1	6000	140
24"	850	1/3	4500	185
30"	850	1/2	8000	220
36"	690	1 1/2	13000	330

CHAMPION ADJUSTABLE STEEL PLATE MILL EXHAUST FANS

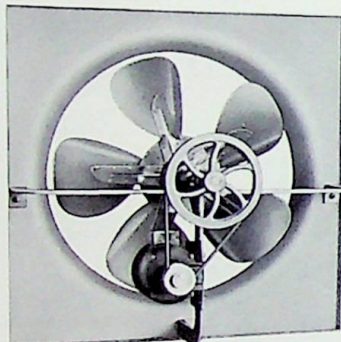


Champion Adjustable Steel Plate Mill Exhausters remove shavings, chips and sawdust from woodworking machinery, and elevate cotton, cotton seed hulls, etc., or any other fibrous material. The bearings are on one side, leaving the inlet unobstructed, so as to allow free ingress for such materials. Are regularly furnished with Self-Aligning Ball Bearings.

These Exhausters have housings suitable to either hand or any discharge and can be furnished for direct motor drive.

Size	Wt. Belt Drive	Wt. Elect. Drive	H. P.	R.P.M.	Wheel Diam.
25"	350	435	2	1,725	17 1/2
30"	400	600	5	1,725	21
35"	510	950	15	1,725	24 1/2
40"	680	1,250	25	1,725	28
45"	775	1,450	15	1,140	31 1/2
50"	1,000	1,600	25	1,140	35
55"	1,350	1,700	15	860	38 1/2
60"	1,500	2,400	25	860	42
70"	1,900	3,000	50	860	46 1/2

CHAMPION ATTIC FANS

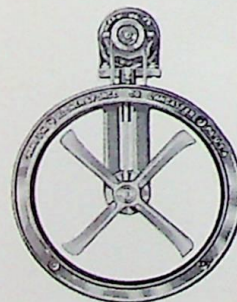


Champion Attic Fans bring in night air quietly.

Sleepless nights are unnecessary. You can enjoy cool night air over your bed, causing curtains to raise enough to let the outside air in your bedroom, and every other room in the house. Thirty changes an hour, or sixty changes an hour in tropics, for whole house ventilation.

Size	Cap F.P.M.	H. P. Motor	Motor Speed	Fan Speed	Watt Input	Shpg. Wgt.
30"	5500	1/6	1725	420	235	160 lbs.
36"	8500	1/4	1725	360	315	200 lbs.
42"	11800	1/3	1725	325	350	275 lbs.
48"	14800	1/2	1725	305	450	340 lbs.

CHAMPION VENTILATING For Spray Room Cabinets and Spray Rooms



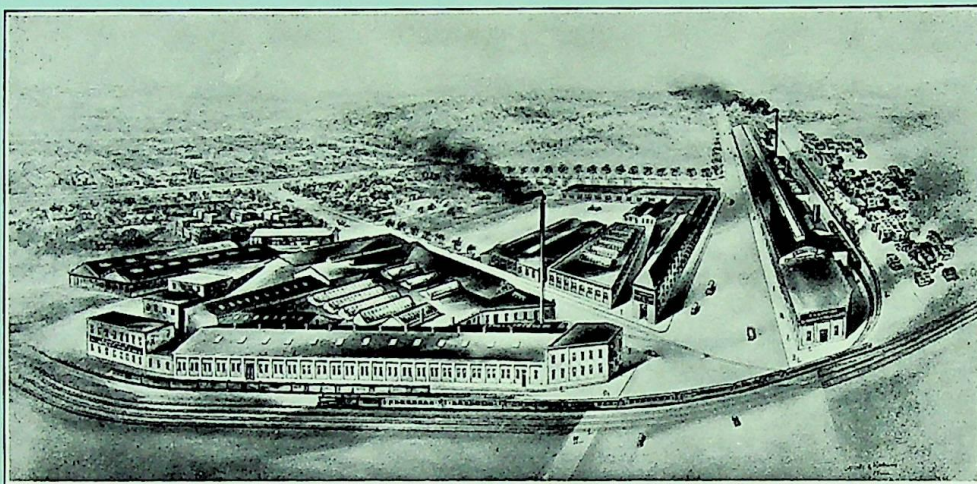
18" Fan, Frame 18 1/2": Motor 1/4 HP: Capacity 3200 C. F. M.: Weight 125 lbs.

24" Fan, Frame 24 1/2": Motor 1 HP: Capacity 6000 C. F. M.: Weight 275 lbs.

Champion Ventilating Fans for use in spraying paint meet all requirements of the Fire Underwriters. The frame is arranged that the fumes from spray do not come in contact with the motor.

The Fan Wheel operates on two Ball Bearings which are tightly sealed to prevent fire hazard.

The Fan Blade is spark-proof.



CHAMPION BLOWER & FORGE CO.

LANCASTER, PENNSYLVANIA